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HONG KONG



MEDICAL & SANITARY REPORT

FOR THE YEAR

1930

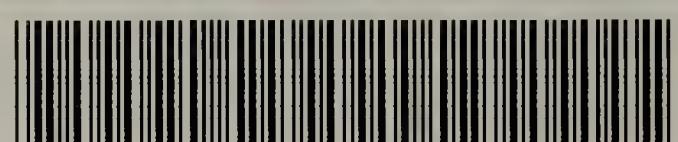


BY

A. R. WELLINGTON

Director of Medical and Sanitary Services

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A. R. WELLINGTON

Director of Medical and Sanitary Services.

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ANNUAL MEDICAL REPORT FOR THE YEAR ENDING 31st DECEMBER, 1930.

INTRODUCTION.

In order to give a clear impression of the Public Health conditions obtaining in Hong Kong it is necessary first to describe the situation of the Colony, its geographical features, its climate, the nature of the population, the housing conditions, and the bearing old Chinese traditions, beliefs, and customs, have on the question of co-operation with the authorities in the promotion and preservation of the Public Health. It is also desirable to indicate the various organisations which together make up the Public Health machinery.

The Territory under British jurisdiction includes the Colony Proper, namely, the Island of Hong Kong with the Peninsula of Kowloon, and the New Territories. In this Report the term Colony means the Colony Proper. The area of the Island is 32 square miles—that of Kowloon is 2 2/3rd. square miles while the New Territories have approximately 300 square miles.

Situated between 22°-9' and 22°-37' North Latitude the area under discussion is just within the northern limits of the tropics. It is in fact practically on the same level as Calcutta. It may be said to form the lower extremity of the left bank of the estuary of the Canton River, at the head of which is the city of Canton and on an island in which stands the Portuguese Colony of Macao.

Topographically the Island of Hong Kong and the Peninsula of Kowloon may be described as a series of granite ridges separated by narrow valleys and having here and there flat areas facing the sea. The New Territory is of similar formation with some fairly wide valleys towards the north and west. The features are such that flats suitable for town sites are few in number and limited in extent. In the Island the only level of any size is that on which the city of Victoria stands and this does not cover more than one square mile. With regard to Kowloon, not more than one half is flat and convenient for street formation.

The Climate.—Situated just within the northern limits of the tropics and occupying an insular position immediately south of the great land mass of China, Hong Kong's climate is very materially influenced by the direction of the prevailing winds. The North East Monsoon blows from November until April and during this period the weather is dry and cool and invigorating.

From May until October, the season of the South West Monsoon, the air is highly charged with moisture and the climate is hot, muggy and enervating. July, August, and September are marked by atmospheric disturbances which now and then culminate in typhoons or cyclones accompanied by blinding sheets of rain.

The mean annual temperature is 72. During the summer months the average temperature is 87 and there is little variation throughout the 24 hours. Situated on the north side of the Island the city of Victoria gets all the heat and moisture of the South West Monsoon but not the breeze, which is cut off by the mountains behind the town. During the winter months the range of temperature is from 70° to 45° with an average of 66° necessitating for comfort the wearing of warm clothes and the provision of fires in the houses. Frost is practically unknown.

The average yearly rainfall is 85.72 inches. As might be expected most of the rain falls in the summer months.

Population and its distribution.—With regard to population there are no accurate statistical figures, the great movement to and from the Colony and the facility with which the border is crossed preventing accurate checking. Hong Kong being the principal entrepôt for South China and its harbour one of the busiest in the world, every day on an average 4,000 to 5,000 individuals pass to and from China by river steamer and by rail, and there are others who arrive and depart by junks or smaller vessels. During times of political unrest in China many thousands from the mainland sojourn in the Colony, some of whom return to their homes when conditions are more settled, others remaining attracted by the opportunities offered for employment. It is estimated that the civil population of the Colony is 1,171,400—of which 592,100 reside in the City of Victoria, 310,000 in the Town of Kowloon, over 100,000 on boats in or about the harbour and the remainder in villages. The Chinese outnumber the rest by 50 to 1, the great majority being illiterate working people who reside in Hong Kong because of the facilities for employment but who return to their native towns and villages when too ill or too old for labour. Through this exodus the death rate of the Colony is considerably lower than it otherwise would be. The Chinese of the upper classes, many of whom have received a western education, are mostly engaged in commerce but there are among them a number of professional men including both lawyers and doctors.

Hong Kong depends for its prosperity on its trade with China and consequently 9/10ths of the population are concentrated in the cities of Victoria and Kowloon which may justly be described as one city divided into two by the harbour. Outside this city there is little of commercial importance and Hong Kong as a Colony might almost be termed the city and port of Greater Hong Kong.

Housing Conditions.—The site on which Victoria stands is a narrow strip of land 4 miles long by 1/5th to 2/5ths of a mile broad lying at the northern foot of the mountain and separating it from the sea. The total area of available space is about one square mile or 1/32nd of that of the whole island. Limited in front by the sea and behind by the steep slopes of the mountain there remains hardly an inch of space which has not been occupied for one purpose or another. The residential portion of the town where the masses live does not exceed 400 acres. In this space 500,000 individuals find accommodation giving a density of 1,250 per acre.

The conformation of the site with its rapid rise of land near the sea-shore led in the early days to the erection of houses on the narrow strip of land near the harbour and extending a little way up the lower slopes of the mountain the houses being separated by narrow lanes and alleyways. When the population was small and the houses only one and two stories in height, the situation was not unsatisfactory. As the population increased the houses were heightened to four and five stories without any corresponding widening of the spaces separating them.

Writing in 1882 when the population was 160,000, the area much the same as it is now and the density 400 per acre—Chadwick stated:—“Overcrowding of houses on the ground occurs to a serious extent and so does overcrowding of houses with humans.” By 1901, when Chadwick again visited, the density had risen to 700 per acre. In his report he said that the housing conditions were rather worse than better than they were in 1882. As regards area per person they were the same but as regards ground area they were worse owing to the large number of lofty houses which had been built during the interval.

Year by year the population continued to increase, immigration being accelerated by unrest in China. Victoria was the centre of trade and therefore the centre of attraction. There was no room to build further accommodation and the newcomers had to squeeze into the already overcrowded premises. Rooms were divided into cubicles which to a certain extent provided privacy but which interfered both with lighting and ventilation.

Year by year the Sanitary Department and the Building Authority made efforts to deal with the situation and with a certain amount of success both as regards palliative and radical treatment. The task almost sisyphean in itself, was rendered more difficult by paucity of water and by opposition put forward both by property owners and the occupiers.

The position to-day is that 500,000 people are being accommodated in an area not exceeding 400 acres in extent where the streets are narrow and the houses four and five stories high. The density is 1,250 to the acre. The people are packed together in the houses like steerage passengers on emigrant ships. In

some cases there are tiers of bunks placed against the walls as in the old fashioned ships, in others the rooms are divided into cubicles or cabins each measuring perhaps eight feet by eight feet and having partitions 6 feet in height. These cabins are not the temporary abodes of persons on a voyage but the more or less permanent homes of the people. There is little or no room for kitchens, and latrine accommodation is limited to pail closets on the roofs of the buildings.

It goes without saying that the maintenance of a satisfactory standard of sanitation under such conditions is a most difficult problem and one which cannot be solved without the willing co-operation of the people. One thing is certain so long as buildings are over-crowded and insanitary no amount of external sanitation will give immunity from disease.

With regard to Kowloon the case is different. This city which is comparatively new has been laid out in accordance with modern town planning principles. It has a density of 300 per acre and the water supply is adequate except in periods of great drought.

Influence of traditional beliefs.—The traditional beliefs of the uneducated Chinese as to the cause of diseases, the means of spread and the factors which affect its course are so at variance with modern teaching, that there is little chance of promoting voluntary co-operation between them and the authorities in the matter of the prevention and control of disease until they can be brought to understand the true nature of the problems and are conscious of the usefulness of the measures advocated. The proximity of China and the constant intercourse makes it harder to overcome prejudices than is the case in countries further afield. The greatest hope lies in propaganda and education. However leaders of opinion in China and leaders of Chinese thought in Hong Kong are making vigorous efforts to promote public health and public welfare along lines which have proved successful in the Occident and the outlook is far more hopeful than was the case a few years ago when Chinese thought on matters of health was unduly swayed by old traditions and theories.

Quarantine impractical between Hong Kong and the River Ports.

So closely related are Hong Kong, Canton, Macao and the River Ports in the matter of trade, and such is the amount of traffic both human and goods which pass between them that, up-to-date, it has been found impossible to devise any system of quarantine which would effectually safeguard one city against introduction of disease from the other and, at the same time, preserve that freedom of commercial movements on which these cities depend for prosperity. It has been deemed best to treat

them as forming one unit, as suburbs the one of the other, and to strive for a working agreement between the various health organizations to the end that some means, other than imposing restrictions against a whole port, may be found to prevent the spread of infection.

*The Organization for the promotion and maintenance
of the Public Health.*

The Colony has no "municipality" in the ordinary accepted sense of the term, the Governor himself being head of the city and head of the port. A Legislative Council takes the place of a Municipal Council and the Colonial Heads of Department perform the duties which in a municipality would be performed by Municipal Heads of Department.

The Director of Medical and Sanitary Services is the official adviser to Government on all Medical and Sanitary matters and is the Officer responsible to Government for the Public Health of the Colony. Under his direction come the Government Hospital Organisation, the Inspection of Chinese Hospitals and Chinese Dispensaries, the Medical Inspection of Schools, the Bacteriological Institute, the Analytical Laboratory, Anti-malarial Activities, Vaccination and Quarantine and Port Health Work.

The Sanitary Department which is distinct from and independent of the Medical Department has at its head a layman, an Officer of the Cadet Service. This department does the work usually performed by the Health Department of a Municipality and in addition deals with all matters connected with scavenging and conservancy. Attached to this department are Medical Officers of Health who are seconded from the Medical Department.

There is a Sanitary Board composed of officials and non-officials whose powers and responsibilities are laid down in the Public Health and Buildings Ordinance 1903 and which acts as an advisory body to the Head of the Sanitary Department who is ex-officio chairman of the Board. The Board has no direct control over the Department. The functions and powers of the Board and the Department are limited to the Colony and to that portion of the New Territories adjacent to Kowloon which is known as New Kowloon.

The present machinery for the promotion of the Public Health is complex in that responsibility for the organization of energy both for the cure and the prevention of disease is divided among a number of units, governmental and non-governmental, which operate more or less independently of one another. The following Table shows the bodies concerned in the various operations for cure and prevention and the authorities in control.

CURE OF DISEASE.

<i>Institution.</i>	<i>Accommodation.</i>	<i>Authority in Control.</i>
Government Civil Hospital*	246 beds	Medical Department.
Victoria Hospital	71 ,,	,, ,
Kowloon Hospital	58 ,,	,, ,
Peak Hospital	20 ,,	,, ,
Infectious Diseases Hospital	26 ,,	,, ,
Gaol Hospital	30 ,,	,, ,
Alice Memorial and Affiliated Hospitals	126 ,,	London Missionary Society
Matilda Hospital	50 ,,	Special Committee.
The French Hospital	110 ,,	French Mission.
The Italian Hospital	18 ,,	Canossian Mission.
The Tung Wah Hospital ...	460 ,,	Tung Wah Committee (Chinese).
The Tung Wah Eastern Hospital	195 ,,	,, , ,
The Kwong Wah Hospital...	250 ,,	,, , ,
The Tsan Yuk Maternity Hospital	57 ,,	Special Chinese Committee
The Chinese Eastern Maternity Hospital	22 ,,	Special Chinese Committee
The Chinese Public Dis- pensaries: 9 in number ..		Special Chinese Committee for each.

*100 beds in this Hospital have been placed under the charge of the Clinical Professors of the Hong Kong University. The Out-patients Department is also conducted by them.

Transport of the sick.—Motor Ambulances, garaged at the Fire Station, are controlled by the Police and Fire Department. Hand Ambulances are operated by the Sanitary Department. The Tung Wah Hospital and the Tung Wah Eastern Hospital each has a motor ambulance of its own and so has the St. John's Ambulance Brigade.

DISEASE PREVENTION.

<i>Activity.</i>	<i>Controlling Authority.</i>
Town Planning	Public Works Department.
House Construction	„ „ „
Water Supplies	„ „ „
Sewerage and Drainage	„ „ „
Control & protection of food supplies.	Sanitary Department.
Registration of Births and Deaths ...	„ „
Control of epidemic causing diseases..	„ „
Collection and disposal of refuse	„ „
Collection and disposal of night soil...	„ „
Quarantine and Port Health Work....	Medical Department.
Vaccination	„ „
Bacteriological Activities	„ „
Public Mortuary Work	„ „

The St. John's Ambulance Brigade which holds a strong position in the Colony and which does excellent work both in the training of personnel and in the performance of first aid duties, renders valuable assistance to the authorities.

Progress with regard to Re-organisation of the Medical and Sanitary Services.

In December 1929 the Legislative Council passed an amendment to the Public Health and Buildings Ordinance making the Director of Medical and Sanitary Services a member of the Sanitary Board in place of the Medical Officer of Health. The objects and reasons of the Bill were stated as follows:—

“With a view to the re-organisation of the Medical and Sanitary Services of the Colony, it is considered desirable to associate the Director of Medical and Sanitary Services more closely with the working of the Sanitary Department, and in order that he may have the opportunity of acquiring first hand knowledge of the working of the Department it has been decided to place him on the Sanitary Board instead of the Medical Officer of Health.

When the Director of Medical and Sanitary Services has replaced the Medical Officer of Health as a member of the Sanitary Board the Government will await such recommendations from him in the public health administration as his experience of the working of the Sanitary Department may prompt him to make."

In January 1930 Sir Cecil Clementi in his farewell address to the Legislative Council said "We need and must have a Sanitary organisation co-extensive with the Colony and its New Territories and reform in this respect is long over due."

In July the Director of Medical and Sanitary Services forwarded to Government his report on the working of the Medical and Sanitary Departments and submitted recommendations for re-organisation.

In October the Director of Medical and Sanitary Services was relieved of his duties as a member of the Sanitary Board and the Medical Officer of Health was re-installed. In the same month the Director of Medical and Sanitary Services paid a visit to Shanghai for the purpose of studying the health system of the International Settlement and that of Greater Shanghai.

In December Government appointed a "Public Health Committee to examine the proposals made for re-organization," which Committee was still sitting at the close of the year.

A factor which very effectually slowed progress in matters connected with re-organization was the decline in value of the local dollar. Owing to the difficulty of balancing the budget hopes of expansion had to be temporarily abandoned and retrenchment seriously considered. Vacancies for a Secretary to the Medical Department, a Dental Surgeon, a Senior Health Officer and two Health Officers were left unfilled and the launch, proposed for dispensing relief to the boat population, was not built.

In June Government appointed a Retrenchment Committee to make enquiries regarding the staff, organization and working of all departments. At the end of the year neither the Medical Department nor the Sanitary Department had been examined by the Committee.

N.B.—Since writing the above, the 1931 Census has been taken and the preliminary returns show that the total population of the Colony, exclusive of the Naval, Military and Air Forces, is only about 855,000. As the full figures are not yet available it has not been possible to make the necessary corrections in the Report. Corrected figures will appear in the Report for 1931.

SECTION I.

ADMINISTRATION.

STAFF.

The total authorised establishment of the Medical Department for 1930 was as follows:—

Head Quarters Staff.

Director of Medical and Sanitary Services ...	1
Deputy Director of Medical and Sanitary Services	1
Secretary	1*

Health Division.

Senior Health Officer	1*
Health Officers	5†
Chinese Health Officer	1
Medical Officer for Schools	1
Chinese Medical Officer for Schools	1
School Nurses	2
Port Health Officers and Inspector of Emigrants	2
Chinese Port Health Officers	2
Vaccinators	12

Medical Division.

Senior Medical Officer	1
Medical Officers	8
Dental Surgeon	1*
Dental Mechanic	1*
Assistant Visiting Medical Officer to Chinese Hospital and Dispensaries	1
Part-time Interpreter to Assistant Visiting Medical Officer to Chinese Hospitals and Dispensaries	1
Chinese Medical Officers	9
Radiologist	1
Radiographer	1
Masseuse	1

*Posts vacant during the year.

† 3 Posts vacant.

Bacteriological Institute and Research Division.

Bacteriologist	1
Assistant Bacteriologist	1
Class I Laboratory Assistant	1
Class VI Laboratory Assistant	3
Malariologist	1
Assistant to Malariologist	1
Inspector	1*
Probationer Inspectors	4

Division of Chemical Analysts.

Government Analyst	1
Assistant Analysts	3†
Assistant Analyst (Temporary)	1
Assistant Analysts Class II	2
Sampler	1

Apothecaries and Dispensers.

Apothecary	1
Assistant Apothecaries	2
Dispensers	5
Apprentice Dispensers	4

Nursing Staff.

Principal Matron	1
Matrons	4
Home Sister	1
Tutor Sister	1*
X-Ray Sister	1*
Nursing Sisters	46
Charge Nurse	1
Staff Nurses	11
Probationer Nurses	30§
Charge Dressers	5
Staff Dressers	2
Probationer Dressers	12¶
Head Attendant, Mental Hospital	1
Assistant Attendant, Mental Hospital	1
Female Attendants, Mental Hospital	2
Wardmasters	3
Midwives	7

* Posts vacant during the year.

§ 8 Posts vacant.

† 1 Post vacant.

¶ 4 Posts vacant.

Clerical Staff.

Accountant	1
Clerk Class II	1
Clerks Class III	2
Clerks Class IV	2
Clerks Class V	2
Clerks Class VI	12
Clerk Special Class	1
Stenographers	2

Other Officers

Steward	1
Assistant Steward	1
Linen Maid	1
Office Attendants, Messengers, Wardboys, Amahs, Coolies, etc	289

Principal Changes in Personnel.

The following were the principal changes which took place during the year:—

Appointments:—Dr. A. V. Greaves was transferred from the Bahamas Medical Service as Assistant Bacteriologist and arrived in the Colony on 27th January, 1930.

Dr. R. B. Jackson was transferred from the Federated Malay States Medical Service as Malariologist and arrived in the Colony on 24th April, 1930.

Dr. W. D. Forrest was appointed Medical Officer on 21st March, 1930 and arrived in the Colony on 24th April, 1930.

Dr. G. V. A. Griffith was appointed Medical Officer on 24th July, 1930 and arrived in the Colony on 28th August, 1930.

Dr. P. F. S. Court was appointed Medical Officer on 13th September, 1930 and arrived in the Colony on 17th October, 1930.

Resignation:—Dr. A. Cannon left on termination of Agreement.

Invaliding:—Dr. W. D. Forrest was invalidated on 30th May, 1930.

Chinese Medical Officers.

Dr. D. Laing was appointed on 7th April, 1930.

Dr. (Miss) P. Ruttonjee was appointed on 1st October, 1930,

Finance.

The amount sanctioned in the Estimates for the Medical Department was \$1,209,611.00 and the amount expended was \$1,186,249.73.

Revenue received:-

For Medical Treatment	\$100,324.23
Medical Certificates	110.00
Bacteriological Examinations	7,384.03
Chemical Analyses	19,891.50
Bill of Health	11,292.00
Medical Examination of Emigrants ...	128,885.90
<hr/>	
TOTAL	\$267,887.66
<hr/>	

Ratio of expenditure on medical and sanitary services to total revenue from all sources:—Because of the overlapping which occurs when a work serves both a utilitarian and a sanitary service it is impossible to assess exactly the amounts which have been spent for purely medical and sanitary purposes. Including all water works and drainage works as sanitary works the following shows the commitments as laid down in the Estimates for 1930:—

Expenditure by Medical Department ...	\$ 1,209,611.00
,, ,, Sanitary Department ...	791,563.00
,, ,, Public Works Dept ...	1,000,000.00
,, ,, Police Department	9,000.00
,, ,, Subsidies to charities ...	111,704.00
,, ,, Miscellaneous	11,000.00
<hr/>	
TOTAL	\$3,132,878.00
<hr/>	

$$\text{Ratio} = \frac{\text{Expenditure } 3,132,878.00}{\text{Revenue } 22,712,920.00} = 13.75\%$$

SECTION II.

PUBLIC HEALTH.

GENERAL REMARKS.

It is usual to gauge the health of a community by the death rate for a high death rate means a high sickness rate and *vice versa*. The number of deaths recorded in Hong Kong indicates very correctly the deaths which have taken place in the Colony, but because of the desire of the Chinese to expire in their native towns or villages in the midst of their relations and the consequent exodus of many who feel death approaching, the number of deaths recorded is considerably lower than would be the case had all who contracted disease here remained until the end.

Even if the death figures were correct the absence of accurate figures for population makes it impossible to obtain rates which would form useful bases for comparisons.

The state of the public health of the Colony as reflected in the statistics and compared with those of former years was good.

The crude death rate of the Colony as calculated was 15.14 per mille population a decrease of 1.63 per mille on the figures for the previous year and less by 4 per mille than the mean for the last 10 years.

Respiratory diseases accounted for 38.95% of the total deaths, 12.25% of the whole being due to pulmonary tuberculosis, 12.33% to broncho-pneumonia, 9.31% to bronchitis and 5.06% to pneumonia. The overcrowded, ill-ventilated and badly lighted houses combined with the expectorating habits of the Chinese lower classes furnish sufficient explanation for the prevalence of respiratory troubles.

The following Table gives the principal diseases causing deaths and their death rates:—

<i>Non-notifiable diseases.</i>	<i>Death rates per mille population.</i>	
	<i>1930</i>	<i>1929</i>
Pulmonary tuberculosis	1.85	2.06
Broncho-pneumonia	1.86	2.07
Bronchitis	1.41	1.32
Pneumonia	0.76	0.90
Diarrhoea (infantile)	1.36	1.19
Diarrhoea	0.60	0.37
Dysentery	0.19	0.18
Beri Beri	0.59	0.54
Malaria	0.47	0.40
Heart disease and Heart failure...	0.40	0.42

<i>Notifiable diseases.</i>	<i>Death rates per mille population.</i>	
	1930	1929
Small-pox	0.23	0.81
Enteric	0.07	0.05
Diphtheria	0.03	0.06
Cerebro-spinal fever	0.01	0.01
Plague	0.00	0.001

In the New Territories there never has been any registration of deaths and figures for the calculation of rates are not available.

COMMUNICABLE DISEASES.

(A) *Mosquito-borne Diseases.*—The mosquito borne diseases—malaria, dengue and filariasis not being notifiable incidence figures are not available and the only information obtainable is that put up by certain hospitals and private practitioners.

Malaria.—This disease which in the early days of the Colony was the great cause of death and from which Hong Kong derived its reputation of unhealthiness has now practically disappeared from the populous centres of Victoria and Kowloon, as the result of the destruction of the breeding places of the carriers through efficient drainage. There is still a considerable amount of malaria in the outskirts of the two towns and in the rural areas both of the Island and the mainland. From the general topography of the country, from its geology, from what has already been learned of the mosquito fauna, and from comparison with Malaya, Assam, Sumatra and the Philippines where similar mosquitoes exist one is inclined to suspect that the breeding grounds of the carriers are the small collections of clear water lying in the untrained nullahs and at the hill foots and that the large areas of wet cultivation are not so dangerous as has been supposed. However, much more detailed work will have to be done before the whole truth is brought to light.

An experienced Malariaologist and his technical assistant arrived in the Colony in April having been transferred from the Malayan Medical Service. The Report of the Malariaologist will be found in the appendix.

Judging from the Hospital admissions this disease was slightly less prevalent than last year. The cases admitted to the Government Hospitals for the last six years were as follows:—

1925	.....	1,142
1926	.....	970
1927	.....	670
1928	.....	485
1929	.....	653
1930	.....	535

Of the 535 cases admitted during the year 370 were benign tertian, 163 sub-tertian, 2 quartan.

The incidence among the police in the New Territories for the same period was:—

1925	.....	1,205
1926	.....	877
1927	.....	428
1928	.....	278
1929	.....	265
1930	.....	258

Many of the Police Stations are screened and every man is provided with a mosquito curtain. Prophylactic Quinine is issued and the living rooms are regularly sprayed with an insecticide to repel mosquitoes and to kill those that may be present.

The total number of deaths attributed to Malaria was 515 or 3.1 per cent of the whole: the death rate per mille population was 0.47 as compared with 0.40 for 1929. The lowness of the rate is of course due to the fact that the majority of the population being outside the zone of the Malaria carrying anophelines are not subject to risks of attack. A number of localities outside the town are reputed to be malarious but at present there are few figures to allow an estimate to be made of amount.

Dengue.—Dengue is endemic in Hong Kong and from time to time reaches epidemic form. There was nothing in the way of an epidemic in 1930.

Filariasis.—The disease probably exists but there are no figures on which to estimate sickness and death rates. Cases of Elephantiasis are rare.

Tuberculosis.—If one assumes the probability of some of the cases of broncho-pneumonia being tubercular the death figures show that this disease still continues to rank as the chief cause of mortality. Pulmonary tuberculosis is a chronic and debilitating disease and one which unfits the individual from the active exercise of his employment months or even years previous to his death. It is, therefore, most probable that the death figures form only a partial index of the prevalence of the disease in the Colony as many, who would have died here had they remained, returned to their native villages in China there to end their lives among their friends and relatives. If the death figures were multiplied by two the result would be not far from the truth.

There is no sanitorium and no special institute for the care of persons suffering from chronic diseases and the hospital accommodation all told is only one bed per 1,000 population. It is obvious, therefore, that the majority of sufferers from this infectious disease must struggle against the ravages of their affliction in the crowded tenement houses under conditions which leave little hope for their ultimate recovery. It is the custom with the Chinese of to-day, as it was with the English of yesterday, to expectorate anywhere and everywhere and thus each case of tuberculosis is an active focus for the spread of the disease.

There is little hope for improvement under present conditions.

Leprosy.—The law dealing with Leprosy is the Leprosy Ordinance of 1910 which makes leprosy a notifiable disease and gives power to the Governor-in-Council 'to appoint such places as he shall think fit to be leper asylums for the segregation and treatment of lepers' and power to the Governor to order that a leper be segregated in a leper asylum, or if there be provision for effective isolation and medical treatment in the patient's own home, the conditions under which he may be allowed to remain there.

Since November 1910, when the Au Tau Settlement in the New Territory was destroyed by fire, no place has been 'appointed a leper asylum' and there is now no settlement in either the Colony or New Territories.

Though leprosy is a notifiable disease very few cases are notified. Considering the great interchange between Hong Kong and the neighbouring province of Kwangtung it is not unnatural to suppose that the incidence rate will be much the same in the two places. In Kwangtung the incidence rate has been estimated as one case per thousand population or the same as

that prevailing in India and Malaya. Assuming the population of the Colony and New Territory to be 1,000,000 the number of lepers is 1,000. It may be that this number is too high but allowing that the number is only half that of Kwangtung the figure is 500 or if one quarter then 250.

Lepers who are not British subjects are prohibited from entering the Colony and any such who find entrance may be deported. Lepers of Chinese nationality are sent to Canton. Lepers who are British subjects may obtain treatment at the Government Hospitals.

It is hoped that it may be arranged for Hong Kong lepers to be received at Sheklung—a leper settlement on Chinese territory controlled by the Roman Catholic Mission.

INFECTIOUS DISEASES.

The infectious diseases of the Colony may for convenience be classified into those which are notifiable under the Public Health and Buildings Ordinance and those which are not.

The most important of the non-notifiable infectious diseases are Pulmonary Tuberculosis and Leprosy.

The notifiable diseases are Plague, Cholera, Yellow Fever, Small-pox, Typhus Fever, Cerebro-spinal Fever, Enteric Fever, Para-typhoid Fever, Relapsing Fever, Scarlet Fever, Diphtheria, Puerperal Fever and Rabies (human and animal).

Responsibility for reporting a case of notifiable disease lies with the legally qualified medical practitioner attending the case, or in the absence of such on the occupier or keeper of the premises, or on the nearest male relative living on the premises or in default of such relative on any person in charge of or in attendance on the sick person. Reports are to be made to the Medical Officer of Health or to the Officer in charge of the nearest Police Station.

In actual fact practically the only reports received by the Medical Officer of Health are (a) those from qualified medical practitioners (b) from the medical officers of hospitals and (c) from the medical officers in charge of the Public Mortuaries where bodies dumped in the street by friends or relatives of the deceased have been taken for inspection and disposal.

The Health Authorities, when they do discover a case of infectious disease, have no power to remove it to hospital unless the patient or his guardian consents or unless a magistrate makes an order for removal.

The numbers of cases of infectious disease notified during the year were:—

Bubonic Plague	0
Cholera	0
Small-pox	270
Diphtheria	95
Scarlet Fever	3
Enteric	221
Para-typhoid	3
Relapsing Fever	0
Cerebro-spinal Fever	20
Typhus	1
Yellow Fever	0
Puerperal Fever	15
Rabies (human)	0
Rabies (animal)	2

Small-pox.—Every year during the winter months this disease manifests itself in outbreaks which are sometimes sporadic sometimes epidemic. Whatever be the prevalence there is always a tendency for the morbidity rate to decline or disappear with the advent of summer. Considering its high infectivity, its terrible disfigurement and the frequency of fatalities the indifference shown by the Chinese to the presence of cases in their midst is amazing. All Chinese know small-pox and the presence of a case in a crowded tenement house cannot escape the notice of the occupiers but for some obscure psychological reason they refrain from reporting its presence to the authorities, and more often than not the first notification received by the Medical Officer of Health is that from the Mortuary where the body, dumped in the street at night, has been taken for diagnosis. The sole information received by the Health Authorities concerning the case is the sex of the deceased, the apparent age and the diagnosis. The name, the address, the number of contacts and the period during which the case has been a focus of infection are unknown.

After the 1916-1917 epidemic in an endeavour to stop the practice of dumping and to encourage notification of cases, the Sanitary Board passed a resolution—‘that patients suffering from small-pox be allowed to be treated in their own houses provided that’:—

- (a) all cases in the district be notified to the Medical Officer of Health,
- (b) all inmates of the houses be vaccinated;
- (c) a notice be posted on the door of the house where the patient is being treated,

The results did not come up to expectation for the populace ignored the concession and continued their practice of concealing cases and dumping corpses. The practice of allowing cases to remain in the crowded tenement houses has been in vogue for 12 years and at least 75 per cent still remain concealed and unnotified. The following table shows details regarding cases and notification:—

TABLE SHOWING DATA CONCERNING SMALL-POX CASES.

Year.	No. of deaths registered.	Total No. of cases if the mortality be 50 %	Percentage of cases notified early, mostly by Private Practitioners.		
			During life including moribund cases.	After death had occurred.	Before death.
1910.....	15	30	58	41	42
1911.....	198	396	23	45	77
1912.....	565	1,130	20	42	80
1913.....	84	168	27	39	73
1914.....	91	182	13	46	87
1915.....	29	58	19	39	81
1916.....	542	1,084	18	46	82
1917.....	549	1,098	16	38	84
1918.....	26	52	19	39	81
1919.....	15	30	11	57	62
1920.....	21	42	24	42	7
1921.....	162	324	19	39	39
1922.....	189	378	19	36	82
1923.....	1,141	2,282	17	41	87
1924.....	795	1,590	13	43	61
1925.....	41	82	39	42	42
1926.....	26	52	61	32	38
1927.....	126	252	18	40	46
1928.....	517	1,034	13	42	41
1929.....	854	1,708	4	44	44
1930.....	249	498	0	38	38

The total number of cases brought to the notice of the authorities during the year was 270 of which 249 or 92.2 per cent died. 63 cases were admitted to the Tung Wah Hospital for 'Chinese' treatment, which with 10 remaining from the previous year made a total of 73. Of these 25 died making a death rate under Chinese treatment of 34.2 per cent. Altogether 4 cases were treated in the Government Infectious Diseases Hospital of which none died making a death rate of nil per cent under Western or scientific treatment. 86.3 per cent of all the deaths were in children under 5 years of age.

In this epidemic 190 cases or 70% were notified to the Medical Officer of Health for the first time when the Medical Officer in charge of the Mortuary reported the presence of a corpse dead of the disease. The great majority of these were dumped corpses.

The average case mortality rate for all countries in the unvaccinated of all ages is 25 per cent to 35 per cent, and for those of children under 5 years of age not more than 50 per cent. In Hong Kong the percentage of deaths to cases notified was 92.2 which shows that a great number of cases escaped the notice of the authorities altogether. There were 249 deaths and even if it were assumed that all who died were unvaccinated and under 5 years of age the number of cases was not 270 but 249×2 or 498 which means that 228 or 45.7 per cent of the whole escaped the notice of the Sanitary Department altogether.

Isolation of the sick, disinfection of premises and surveillance of contacts, such as carried out in most countries, being impracticable under the accepted policy, the only means of combating an epidemic was the pushing of vaccination.

Anticipating an epidemic, arrangements were early made with the Assistant Commissioner of St. John's Ambulance Brigade to conduct a vaccination campaign similar to that of the previous year. As before, each member of the Brigade was instructed in vaccination by the Divisional Surgeons and when pronounced efficient his name was gazetted as a public vaccinator for the period of the emergency. Booths were opened in the streets and markets and active propaganda advocating vaccination and revaccination was carried out and altogether excellent work was done. At the same time special efforts were made by the Government Vaccinators and at the hospitals and dispensaries.

Altogether 244,789 persons were vaccinated (as compared with 323,709 in 1929) of which 116,475 were done by the Brigade, 25,242 by the Chinese Hospitals and Dispensaries and 103,072 by the Government Vaccinators (public vaccinators and hospitals).

In previous campaigns great difficulty had always been experienced in obtaining permission to vaccinate young children, and this year a special effort was made in this direction. The fact that 86 per cent of the deaths were those of children under 5 years shows the unvaccinated state of the child population.

From the above it will be seen that the St. John's Ambulance Brigade and the Chinese Hospitals and Dispensaries rendered most valuable assistance in the attempt to control the small-pox epidemic by vaccination alone. During 1929 and 1930 568,498 vaccinations were performed, a total equalling half the population. The constant movement of population into and out of the Colony (some 5,000 per diem) however renders it impossible to maintain a community so immune as to prevent disease spreading when cases are allowed to run their courses in tenement houses and there is no efficient control over the numerous free agents which pass into and out of the premises daily.

In September a Select Committee of the Sanitary Board was appointed to "examine into the history of small-pox in the Colony in recent years and the machinery for its prevention and mitigation and to report to the Board, and to suggest a reply to His Excellency's communication regarding the dumping of the bodies of those dead of small-pox."

In its Report dated 28th November, 1930, the Committee made the following recommendations:—

1. The trial of house treatment of Small-pox, having failed in its object through non-compliance with the conditions laid down, the rescission of the Resolution of 1918 is advocated.
2. The dumping rate having risen steadily since 1918 steps should be taken to establish a more thorough propaganda system and if necessary more dépôts for the receipt of bodies. The services of such Institutions as the Dispensaries Committees, the Chinese Hospitals and other Representative Bodies might be utilized for the purpose of such propaganda system.

Plague.—No case of human plague or rat plague was reported during 1930.

Plague has practically disappeared from Hong Kong and the same may be said of most towns in South China. The disappearance in Hong Kong may be and probably is due in some degree to the sanitary measures which have been and are being taken but this cannot be the case in many of the Chinese towns where the conditions are as they have always been. The fact is that the cause of the rise and fall in plague figures has not yet been

satisfactorily explained. We know that plague is a disease of rats communicated to man through the medium of the rat flea but we know little of the reason for the rise and fall in the incidence of the disease among rats or what natural causes have an influence on the virulence of the plague bacillus. In spite of the continuous campaign against them, owing to the rapidity with which they multiply, there still is and probably always will be a sufficiency of rodents in the Colony to light up and maintain an epidemic. The value of a continuous anti-rat campaign lies in the early information it affords of an epizootic.

The cases of Plague recorded in the Colony since the discovery of this disease in 1894 are given in the following Table:—

Year.	Cases.	Year.	Cases.
1894	..... 5,000	1913	..... 408
1895	..... 44	1914	..... 2,146
1896	..... 1,204	1915	..... 144
1897	..... 21	1916	..... 39
1898	..... 1,320	1917	..... 38
1899	..... 1,486	1918	..... 266
1900	..... 1,087	1919	..... 464
1901	..... 1,651	1920	..... 138
1902	..... 572	1921	..... 150
1903	..... 1,415	1922	..... 1,181
1904	..... 510	1923	..... 148
1905	..... 272	1924	..... 0
1906	..... 893	1925	..... 0
1907	..... 240	1926	..... 0
1908	..... 1,073	1927	..... 0
1909	..... 135	1928	..... 4
1910	..... 25	1929	..... 2
1911	..... 260	1930	..... 0
1912	..... 1,857		

Enteric.—The number of cases reported was 221 as compared with 207 for the previous year. All the cases were sporadic and as is usual in such the source of infection could not be traced. There is no evidence that any case contracted the disease through the public water supply.

Helminthic Disease.—The hospital returns show 31 cases of ankylostomiasis, 3 cases of cestodes and 3 cases of clonorchis and 23 cases of ascaris infection. These figures are of no value in gauging the prevalence of helminthic diseases for they only represent the cases which were treated for worms alone. It is estimated that 75 per cent of adult Chinese harbour ascaris. It is probable that a considerable number have trematodes.

VITAL STATISTICS.

The registration of births and deaths is compulsory in the Colony; there is no registration in the New Territories. Births are registered at the Central Office in Victoria, at the Chinese Public Dispensaries and at the Police Stations at Aberdeen and Stanley. Deaths are registered at the Central Office, at the Kowloon Disinfecting Station and at a number of Police Stations.

Death registration being a necessary preliminary to a permit to bury it may be taken for granted that practically all deaths are registered. Bodies found 'dumped' or abandoned in the streets, and they are not a few, are taken to the Public Mortuary where they are examined by the Medical Officer in charge who fills out the necessary certificates and forwards them to the Registrar. All certificates of death are scrutinised by the Medical Officer of Health.

Birth registration is not universal and a considerable number of births, especially those of females, are never reported.

Population.—The estimated civilian population for the whole of the territories under British Jurisdiction was 1,171,400; that for the Colony was 1,074,400; and that for the New Territories was 97,000. The distribution was as follows:—

Non-Chinese (mostly resident in Hong Kong and Kowloon)	19,000
Chinese in the City of Victoria	592,100
,, ,, Villages of Hong Kong	47,000
,, ,, Kowloon and New Kowloon	307,250
,, ,, Junks and Sampans	109,050
<hr/>	
Total civilian population	1,074,400
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During the year 827,726 persons entered and 683,530 left the Colony by river steamer and by railroad, making a balance of immigrants over emigrants by these routes of 144,196.

	<i>Arrived.</i>	<i>Departed.</i>
River steamer	114,443	129,810
Railway	713,283	553,720
Ocean going steamers	635,418	572,905
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Total.....	1,463,144	1,256,435
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The above does not represent the total movement between Hong Kong and the neighbouring provinces for there are many who arrive and depart by junk or sampan. On an average some 5,000 arrive and 5,000 depart daily.

BIRTHS.

The births registered as having occurred in the Colony were:—

Chinese	10,756
Non-Chinese	378
Total	11,134

DEATHS.

The deaths registered among the civilian population were 16,268 giving a crude death rate of 15.14 as compared with 16.77 for the previous year:—

Year.	Deaths.	Death rate per mille population.
1929	Chinese 17,346	16.95
	Non-Chinese ... 219	12.06
1930	Chinese 16,082	15.23
	Non-Chinese ... 186	9.78

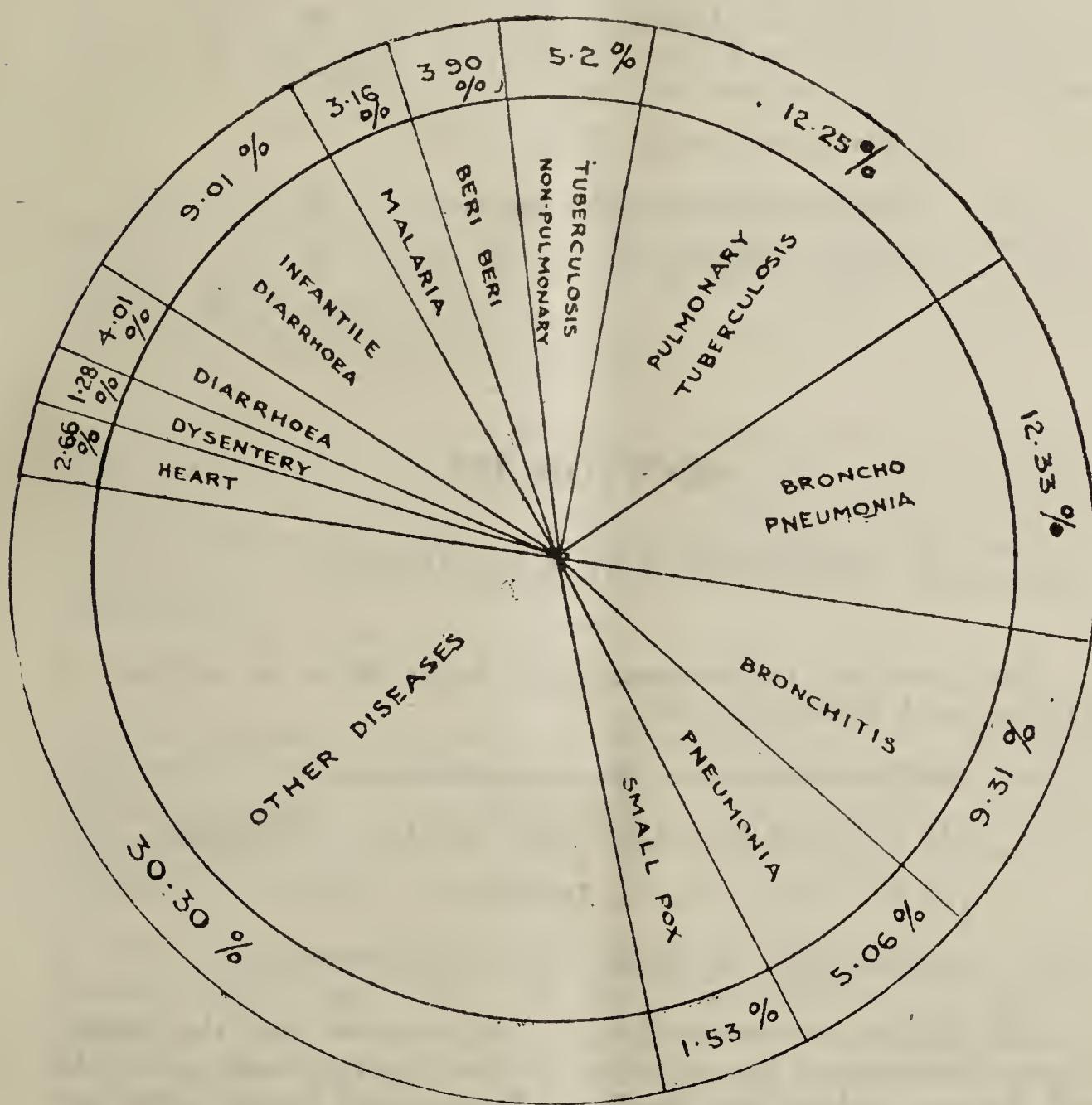
The following Table gives the deaths from the principal diseases causing deaths:—

Non-notifiable diseases.	Deaths.	No. of Deaths.	Percentage of total deaths.	Death rate per mille population.	
				1930.	1929.
Broncho-pneumonia	2,006	12.33	1.86	2.07	
Pulmonary tuberculosis	1,994	12.25	1.85	2.06	
Bronchitis	1,515	9.31	1.41	1.32	
Pneumonia	824	5.06	0.76	0.90	
Diarrhoea (infantile)	1,466	9.01	1.36	1.19	
Diarrhoea	653	4.01	0.60	0.37	
Dysentery	209	1.28	0.19	0.18	
Beri-Beri	635	3.90	0.59	0.54	
Malaria	515	3.16	0.47	0.40	
Heart disease and heart failure	433	2.66	0.40	0.42	

Notifiable diseases.	Deaths.	No. of Deaths.	Percentage of total deaths.	Death rate per mille population.	
				1930.	1929.
Small-pox	249	1.33	0.23	0.81	
Enteric	79	0.48	0.07	0.05	
Diphtheria	41	0.25	0.03	0.06	
Cerebro-spinal fever	13	0.03	0.01	0.01	
Plague	0	0.00	0.000	0.001	

Infantile Mortality.—The number of deaths of infants under one year were Chinese 6,180, non-Chinese 28. If the figure for births notified represented the total births in the Colony the infantile mortality figure would be 557.5. This figure is certainly too great but there can be no doubt that the true rate is a high one.

Death Clock showing percentages of total deaths caused by different diseases:—



Non-Chinese Population.

The number of non-Chinese civilians resident in the Colony is estimated at 19,000. This number includes Europeans, Japanese, Indians and Eurasians.

The majority of Europeans are treated by private practitioners during illness and figures are not available for calculating incidence rates.

The number of non-Chinese deaths recorded was 186 giving a death rate of 9.79 per mille.

European Officials.

Number of European Officials (excluding temporary school mistresses)	976
Average number on leave	173
Average number resident in the Colony	846

Number invalided during 1930:—

(a) when on leave at home	1
(b) in the Colony	8
	— 9

Number died during 1930:—

(a) when on leave at home	1
(b) in the Colony	4
	— 5

SECTION III.

HYGIENE AND SANITATION.

The principal Ordinances which have effect in matters of Hygiene and Sanitation are:—

- (a) The Summary Offences Ordinance.
- (b) The Public Health and Buildings Ordinance.
- (c) The Water Works Ordinance.
- (d) The Sale of Food and Drugs Ordinance.

The Police are responsible for action under (a), the Public Works Department for action under the building sections of (b) and for (c), while the Sanitary Department deals with the public health side of (b) and with (d).

The Sanitary Department, which is distinct from the Medical Department, has at its head a Senior Cadet Officer whose title is Head of the Sanitary Department (H.S.D.). The staff under his administrative supervision includes:—

- (1) Two European and one Chinese Health Officers (seconded from the Medical Department).
- (2) Two Veterinary Surgeons.
- (3) Fifty-five European Sanitary Inspectors.

There is a Sanitary Board composed of Officials and non-Officials, whose powers and responsibilities are laid down in the Public Health and Buildings Ordinance, which acts as an adviser to the H.S.D. and of which the H.S.D. is the Chairman. This body has no direct control over the Sanitary Staff.

The functions and control of the Sanitary Board and Sanitary Department as determined by the Public Health and Buildings Ordinance are limited to:—

- (a) the Island of Hong Kong, (b) the Peninsula of Kowloon, and (c) that portion of the New Territories which is adjacent to Kowloon and which is known as New Kowloon.

The Director of Medical and Sanitary Services, who is adviser to Government on all medical and sanitary matters, confers with the H.S.D. but has no status under the Public Health and Buildings Ordinance and no authority over any of the staff of the Sanitary Department.

The following general review of work done and progress made in matters of sanitation is—so far as the Sanitary Department is concerned—based on facts supplied by the Medical Officer of Health. The Annual Report of the Sanitary Department is issued independently by the Head of the Sanitary Department.

SANITARY ADMINISTRATION.

For purposes of sanitary administration by the Sanitary Department, the Island and the Peninsula have been divided into local sanitary areas, each with a sanitary office, and these in turn have been sub-divided into Health Districts each in charge of a Sanitary Inspector.

The built over portions of Hong Kong constitute only about 1/30th of the total area. On the North side is the City of Victoria which occupies the flats and lower slopes facing the harbour. Behind and above the City is the Residential area of the Hill District extending up to and including the crest called “the Peak”. The great mass of the population, (500,000), which reside in the City, are crowded into an area which does not exceed 400 acres in extent. On the South side and near the sea level are the villages of Aberdeen, Aplichau, Stanley and Tai Tam. The remainder of the Island consists of steep slopes with few or no habitations.

The Peninsula of Kowloon may be described topographically as consisting of a central group of hills surrounded on three sides by flats which intervene between them and the sea coast. The bulk of the population (250,000) live in tenement houses on the flats. New Kowloon is an extension northwards of the flats on the western side.

The City of Victoria including the Peak is divided into four sanitary areas and seventeen health districts. The villages on the south side of the island are in charge of one Inspector. Kowloon Peninsula has three health areas and seven health districts. It is estimated that on an average each Inspector has to deal with a population of 30,000 a very high figure for a tropical city and especially for one so overcrowded as Victoria.

Preventive measures against mosquito and insect-borne diseases.

Anti-mosquito work is divided between the Sanitary Department, the Public Works Department and the Medical Department.

The only law on the subject is the following by-law made under the Public Health and Buildings Ordinance.

“Prevention of the Dissemination of Disease by Mosquitoes”.

“When larvae of mosquitoes are found on any premises the Board may on the advice of the Medical Officer of Health or any Assistant Medical Officer of Health, give notice to the owner or occupier of such premises to remove all accumulations of water from such premises or to take steps to prevent the recurrence of the breeding places of mosquitoes in any such accumulations of water, and such owner or occupier shall comply with such notice forthwith”.

The Sanitary Inspectors are taught to distinguish between anophelines and culicines but progress beyond this elementary stage has not yet been attempted. There are no special mosquito inspectors attached to the Sanitary Department and the anti-mosquito brigade consists of two overseers and a squad of oiling coolies.

The routine work of oiling pools and inspecting premises for the presence of breeding places was carried out by the district inspectors. The usual cutting of undergrowth in May and October was done in conjunction with the Botanical and Forestry Department as regards Crown lands, and with the Military Authorities on military lands.

The relative importance of the different varieties of water collections in the propagation of malaria carrying anophelines has not been fully worked out. This is a very important matter for on its solution depends, to a great extent, the economics of preventive measures.

One thing is certain and that is the nullahs with their inverts strewn with granite rocks and boulders and with tiny pools, seepages and small streams are typical breeding grounds for the dangerous malaria carriers *A. maculatus* and *A. minimus*. The draining of these nullahs so as to obviate all danger of breeding is a matter which is at the same time difficult and expensive. Every year the Public Works Department insert a sum in the estimates for "the training of Nullahs" and every year work up to the limit of the sum sanctioned is carried out. There can be no doubt that the disappearance of malaria from the populated area is in a large measure the result of the drainage works carried out by this Department.

The Malariaological Branch of the Medical Department.

The Malariaologist Dr. Jackson and his assistant Mr. Deb arrived in the Colony on April 24th. on transfer from the Federated Malay States and established the beginnings of a Malaria Bureau in a portion of the Bacteriological Institute placed at their disposal by the Government Bacteriologist. In May a clerk and in November four Chinese probationers were added to the staff.

Since the establishment of the Bureau, investigations have been made and reports issued, regarding the malaria situation at Lyemun Barracks, Sun Wai Military Camp, Taikoo Dockyard, Repulse Bay, Tung Wah Eastern Hospital at Sookumpoo and St. Stephens College at Stanley.

Requests for assistance having been received from the Military Authorities, the Police, Kowloon Hospital Authorities and others with respect to mosquito nuisances local larval surveys were done and recommendations made.

Spleen Rates.—In many countries the spleen rate of the local children is regarded as a reliable index of the amount of Malaria there existing—but in Hong Kong the results obtained by Dr. Jackson and his staff have been in some cases decidedly puzzling. In certain areas of bad repute such as Taikoo and Lyemun spleen indices were found to be very low despite the fact that mosquito nets are not generally used and the habitations are within easy flying distance of numerous breeding places of *Anopheles maculatus* mosquitoes, which are potent carriers in Malaya and of *A. minimus*.

At Stanley peninsula, where in the early days of the Colony Malaria was rife among the troops, there were no enlarged spleens among the 65 children examined.

With regard to the New Territories, where the Malaria situation has so far received little scientific investigation, the few spleen census taken by the Bureau show rates considerably higher than have been found on the Island of Hong Kong. At Taipo Market out of 46 examined 5 or 10.8% had enlarged spleens—In the villages near Sun Wai Military Camp of 33

children examined 9 or 27% had spleen enlargements. At Yok Chai Village on the Castle Peak Road 10 out of 14 examined had palpable spleens giving a spleen rate of 71%.

No difficulty whatever was experienced in the New Territories in taking spleen rates when the reason was explained to the people.

Parasite Rates.—In the Repulse Bay area the smears of the blood of 147 Chinese servants were examined and malaria parasites found in 33 giving an infection rate of 22.5%. Out of the 186 servants living here only 4 used mosquito nets. As there are numerous breeding places of anopheline mosquitoes in the immediate vicinity the neglect of these people to use nets to protect themselves and others increases the risks of spread of malaria.

The Annual Report of the Malariaologist is given in the appendix.

Preventive Measures against Plague.

In the campaign against plague the routine measures which have been in vogue since the disease was at its height were continued. There were:—

- (a) periodical cleansing of premises—lime washing.
- (b) abolition of rat refuges—such as ceilings, stair linings and panellings.
- (c) destruction of rats.

In the crowded areas the periodical cleansing of premises is a most important factor in the prevention of the spread of disease. Every house is dealt with in its turn at least twice a year. All the furniture is removed from the rooms or cubicles and all floors and woodwork washed down with an emulsion of soap and kerosene oil. This is done either by the sanitary staff or by the occupiers under the general supervision of the district inspector. Altogether 180,952 floors were dealt with.

Thirty members of the cleansing staff were employed in setting traps, bird-liming boards, distributing barium-carbonate baits, and collecting rodents which have been taken living or dead. By far the greatest number of rats were taken dead from the many rat reception bins or tins which have been placed in convenient situations throughout the city. The Chinese object to rats being found in their premises by the sanitary staff and it is not uncommon for them to kill the rodents caught in the Government traps and to throw the carcases into the reception tins. The total number of rats collected was 141,286 of which only 6,756 were taken alive. All rats collected were sent to the Public Mortuaries for examination.

During the year no rats were found to be plague infected.

Preventive Measures against Small-pox.

Under the Vaccination Ordinance, all Public Vaccinators are under the control of the Director of Medical and Sanitary Services who is Superintendent of Vaccination. As Registrar of Births and Deaths the Head of the Sanitary Department is responsible for ensuring the vaccination of all children whose births are registered.

Vaccinations were performed by:—

- (a) the Public Vaccinators.
- (b) the M.O's in charge of Government Hospitals.
- (c) the M.O's in charge of Chinese Hospitals.
- (d) the M.O's in charge of Chinese Public Dispensaries.
- (e) the members of the St. John's Ambulance Brigade under the Assistant Commissioner.

Altogether 244,759 were performed.

Preventive Measures against Cholera, Dysentery, Enteric, etc.

The usual routine measures against the spread of bowel diseases continued to be taken, viz. the purification of the Public Water Supplies, and the closing of wells.

No case of locally acquired cholera has been notified since September 1922.

Preventive Measures against Tuberculosis.

The measures taken against Tuberculosis were:—

- (a) The periodical general cleansing of premises.
- (b) Action taken to prevent the erection of unauthorised cubicles especially those which have defects in the matter of lighting, air space, and ventilation.
- (c) Action by the Building Authority to ensure the erection of houses having a proper supply of lighting and ventilation.

The overcrowded condition of the city, its confined area, and the difficulties presented by topographical features together make the question of hygienic housing of the populace one of extreme difficulty. The sanitary staff, (one Inspector to 30,000 people) are working against great odds and they cannot hope to attain results such as are attained in other cities where the task is easier and the personnel larger.

Preventive Measures against Helminthic Diseases.

There never has been any routine campaign against helminthic disease. Whatever be the percentage of population which carry ankylostomes very few cases of ankylostomiasis come under the notice of the hospital authorities.

GENERAL MEASURES OF SANITATION.

Domestic Cleanliness.

Every domestic building or part of a building occupied by the members of more than one family must, unless specially exempted by the Sanitary Board, be cleansed and lime-washed throughout by the owner, to the satisfaction of the Board, not less than once in every year, and notice in writing that such cleansing and lime-washing has been completed, shall be sent by the owner to the Secretary within three days after the date of completion.

It is the duty of the occupier of any domestic buildings to cause such building to be kept in a cleanly and wholesome condition and to see that the drains, traps, gratings, fall pipes, and sanitary fittings and appliances are kept free from obstruction and in an efficient state of repair.

In Hong Kong there are 13,167 Chinese houses with 43,232 floors; in Kowloon there are 8,588 houses and 24,402 floors. During the year 123,164 floors in Hong Kong and 57,708 floors in Kowloon were cleansed—some were done twice and some three times. During the cleansing process all the furniture is moved and the walls and floors washed down with kerosene oil emulsion.

In some cases the work is carried out by the sanitary staff, in others the occupants are permitted to do the work under the supervision of the inspecting staff. Considering each Inspector has to supervise a district with approximately 30,000 inhabitants, most of whom are ignorant of the rudiments of sanitation the thoroughness of the cleansing operations is remarkable.

Scavenging.

Scavenging which used to be done by contract is now carried out departmentally. There are 20 refuse lorries in use. 14 for Hong Kong and 6 for Kowloon. 448 tons were collected daily and removed to various refuse depôts. The bulk of the refuse was ultimately disposed of by dumping in the sea at a distance from the city and in such a situation where the currents run from the land. Some of the refuse from Kowloon was used to reclaim low lying land near the sea-shore.

Conservancy and sewage disposal.

The collection and disposal of night-soil in the Colony is carried out partly by the bucket system and partly by water carriage. With regard to the bucket system arrangements are made with a Contractor for the removal and disposal of excrement under conditions laid down by the Sanitary Board. Human night-soil is a valuable commodity in China where it is

used as a fertiliser for the fields, and there is no difficulty in securing a Contractor who will pay a considerable sum for the sole right of removal. Revenue from this source is gradually diminishing owing to the substitution of water closets for pail closets.

The excrement is removed by night from the latrines to a special fleet of junks which convey it up river to China where it is utilised as manure for the mulberry trees on which the silk worms feed.

Owing to the limitations of the water supply on the Island and the need for economy in the matter of consumption, it is necessary to restrict the number of water closets served by the public mains. Where a sufficiency of water can be obtained from other sources such as wells or nullahs, water closets are allowed. With regard to effluents, some enter the public sewers direct, others pass to biological tank systems to be treated before final discharge.

Drainage.—(Subsoil and Surface).—Drainage, both subsoil and surface, is controlled by the Public Works Department.

Water Supplies.—The water supplies of Hong Kong and Kowloon are in charge of the Water Works Branch of the Public Works Department.

All the water is surface water collected from catchment areas which are free from ordinary risks of pollution.

The water, after storage for a longer or shorter period in the impounding reservoirs, is filtered, in some cases by the slow sand system in others by the rapid system and finally chlorinated.

Routine examinations are carried out by the Government Bacteriologist and Government Analyst and the results furnished to the Water Authority. There was no evidence of any disease having been conveyed through the public water supplies.

Clearance of Bush and Undergrowth.—Generally speaking, in Hong Kong and the New Territories, bush and undergrowth is little in evidence except in those places where it has been planted and conserved. Routine cutting of superfluous undergrowth is carried out in May and October.

In Hong Kong, as in many other parts of the world, there appears to be a general belief that the cutting of undergrowth and the clearance of bush in some way brings about a diminution in the number of mosquitoes especially the species which carry malaria. Whatever may be the effect on culicines it is a fact that the very potent malaria carriers, *Anopheles maculatus* and *Anopheles minimus* breed in water open to the light and shun that shaded by trees or undergrowth. Clearance of bush may, therefore, result in an increase of malaria rather than in a diminution.

Sanitary Inspectors.—During the year the Sanitary Inspectors continued their routine visits of inspection. Under their supervision come the domestic houses, common lodging houses, places of common assembly, eating houses, bakeries, etc., etc. As mentioned previously there are approximately 30,000 people per Inspector—and it is physically impossible for any man to carry out the number of inspections necessary to secure a proper standard of sanitation under the conditions prevailing in this Colony.

SCHOOL HYGIENE.

The School Inspection Branch of the Medical Department consists of one Lady Medical Officer, one Chinese Medical Officer, and two Nurses.

The following information is taken from the Annual Report of the School Medical Officer.

The average number of pupils daily attending Government Schools and Schools which receive Government Grants in Aid was 8,419.

GOVERNMENT SCHOOLS.

Type.	Number.	Nationality of Pupils.	Average Attendance.
British	5	European	370
Anglo-Chinese	13	Chinese	3,592
Indian	1	Indian	126
Total			4,088

The non-government schools receiving grants in aid number 16 of which 12 are Anglo-Chinese, and 4 are vernacular schools. The number on roll in the Anglo-Chinese Schools was 4,738 and in the Vernacular Schools the number was 911.

Not all Grant-in-Aid Schools are inspected. Some have their own doctor *e.g.* St. Stephen's College and the Diocesan Boys School.

The premises of the majority of the Government and Grant-in-Aid Schools were inspected and attention drawn to defects. Various improvements in sanitation were made during the year chiefly in the direction of lighting, ventilation and air space.

Inspection of the entrant group with re-inspection, repeated if necessary, for those found defective, has again formed the bulk of the year's work.

	1927.	1928.	1929.	1930.
Schools inspected	18	17	15	18
Entrants examined	1,189	1,111	1,153	1,364
Defects found	426	1,616	499	580
Percentage of Defects in				
British Schools	37.5	—	37.08	34.0
Percentage of Defects in				
Anglo-Chinese Schools	39.1	—	44.41	43.5

Among the 1,364 "entrants" examined 580 defects were found. The principal defects noted were:—Vision 14.9%, other eye troubles 2.4%, heart disease 2.6%, tonsils and adenoids 5.89%, suspected tuberculosis 3.9%, serious dental cases 4.5%, spinal curvature 0.38%, skin diseases 0.61%.

Re-inspection of children found to be Defective:—

Re-inspected. Improved. Percentage.

British	1929	172	95	55.23%
,,	1930	104	40	38.4%
Anglo-Chinese ..,	1929	1,227	673	54.84%
,, ..,	1930	813	417	51.20%

There are no School Clinics—cases of errors of refraction were seen by Dr. Cogan at his Clinic and examinations made. With regard to other defects, free treatment was offered at the Government Hospitals and at the Chinese Public Dispensaries.

With regard to infectious diseases—the M.O.H. notifies the School Medical Officer of any school cases certified by him. Among the pupils there were 16 cases of Chicken-pox, 1 case of Whooping Cough, 3 cases of Diphtheria, 5 cases of Mumps, 2 cases of Enteric, 10 cases of Measles and 1 case of German Measles.

Vernacular Schools are not yet receiving the benefit of medical inspection. Last year there were 195 subsidised Vernacular Schools in Urban Districts and 487 non-subsidised Schools with an enrolment of 40,000 children including 14,000 girls. Besides these there are Vernacular Grant Schools and about 150 Rural District Schools.

LABOUR CONDITIONS.

The general industrial conditions continued to improve and the labour situation was normal. There are no estates, plantations or mines in the Colony. Practically all the labouring class are engaged in matters connected with commerce, shipping or public works.

Labourers find their own accommodation in the many tenements and lodging houses which exist in Hong Kong or Kowloon.

What factory regulations there are, are administered by the Secretary for Chinese Affairs.

There are no special arrangements for the medical care of labourers other than the Government Hospitals, the Chinese Hospitals, the Mission Hospitals and the Chinese Public Dispensaries. The total number of beds available for general diseases is about 1,000 making a proportion of :—

$$\frac{1,000}{1,000,000} \text{ or 1 to 1,000 approximately.}$$

HOUSE AND TOWN PLANNING.

There is no Town Planning Ordinance and Housing comes under that portion of the Public Health and Buildings Ordinance which is administered by the Public Works Department. There is little or no zoning and blacksmiths shops or even foundries are to be found in the midst of shop houses and domestic houses.

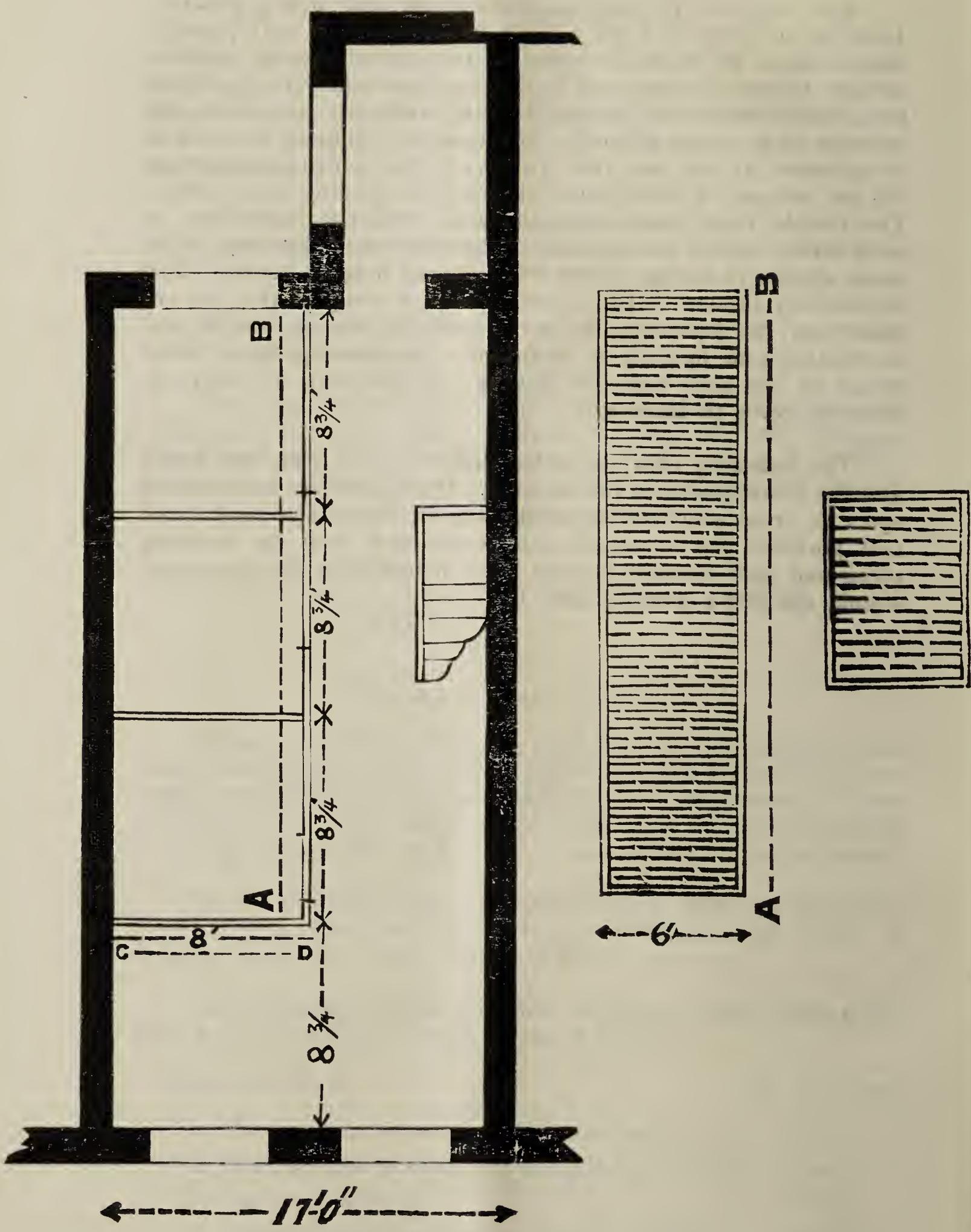
By inter-departmental arrangements the Medical Officer of Health scrutinises the plans of new buildings, but there is nothing in the law which says that this must be so.

The following List shows some of the work done during the year by the buildings branch of the P.W.D.

<i>Nature of Work.</i>	<i>No. of cases.</i>
1. Obstructions removed from open spaces	120
2. Obstructions to light and ventilation removed,..	1,182
3. Rat runs filled in	769
4. Water closets installed in private buildings.....	2,211
5. Houses demolished (domestic)	50
6. Houses demolished (non-domestic)	13
7. Houses erected (domestic)	983
8. Houses erected (non-domestic),.....	18

The City of Victoria is over-housed and over-populated. There is no space to build further houses and the only possible improvement is in the direction of the substitution of unsatisfactory houses by those of model construction. A great deal has already been done by the Building Authority but much still remains to be accomplished. The task is a difficult one and is complicated by the fact that Victoria is the centre of attraction for the stream of immigrants entering the Colony from China. The people must have accommodation and the demolition of each house means an increase of concentration elsewhere—The same applies to eating houses and common lodging houses. One satisfactory feature of the situation is that many of the lots are short and the buildings do not exceed 40 feet in length and ventilation and lighting is therefore a simpler problem than would be the case were the houses 120 feet deep as occurs so often in towns in Malaya.

The following plan shows the dimensions of a modern house and the arrangement of the cubicles. Provided there be sufficient space in front and behind in the way of street and back lanes and provided the occupants co-operate and keep the building clean and well ventilated there is no reason why the occupants should not live a healthy life.



PLAN OF A FLOOR IN A NEW HOUSE
WITH CUBICLES

SCALE 1" = 8 FT.

FOOD IN RELATION TO HEALTH AND DISEASE.

Inspection and Control of Food Supplies.—The laws dealing with this subject are the Public Health and Buildings Ordinance and the Sale of Food and Drugs Ordinance.

The authorities responsible under these Ordinances are the Sanitary Department and the Police Department. The Officers authorised to take samples are, “any sanitary inspector or inspector of weights and measures, or inspector of markets, or any Officer of Police acting under the written instructions of the Secretary of the Sanitary Board, or of the Captain Superintendent of Police, or of the Medical Officer of Health.”

During the year the following samples were taken under the Sale of Food and Drugs Ordinance and analysed:—Milk 53, Cocoa 78, Bread 22, Sugar 34, Coffee 10, Tea 21, Lard 1, Cheese 15, Cream 15, Treacle 14, Jam 13, Flour 34, Tinned Butter 6, Fresh Butter 28. Prosecutions were undertaken in 2 cases where samples failed to satisfy the legal requirements.

In addition the following unsound food was seized and destroyed under Section 82 of the Public Health and Buildings Ordinance:—Sardines 4,680 tins, Mushrooms 563, Cocoa 947, Cream 331, Water Chestnuts 6, Pears 5 bags, Desiccated Cocoanut 4 cases, one ham, and a quantity of Salt Eggs and Oranges.

Deficiency Diseases.—The only information available regarding deficiency diseases is furnished by the returns of the Government Hospitals and Chinese Hospitals, and the death returns. The Hospitals deal with only a small proportion of the sick and the truth as regards the incidence of disease among the masses cannot be deduced from their returns. The death returns are also misleading in that the majority of cases were not treated by competent physicians prior to death, and the Medical Officer examining the body and forming a diagnosis had no history to assist him in coming to a conclusion as to the cause of death.

Beri-beri.—Despite the fact that the staple food of the masses is polished rice, beri-beri is not epidemic, and the deaths from this disease formed only 3.90 per cent of the total deaths. The death rate as far as it can be ascertained was 0.59 per mille population. The total number of deaths recorded during the year was 635. The total number of cases treated in the Government Hospitals was 80 only.

Rickets.—No cases were treated in the Government Hospitals. Most Chinese infants are breast fed until they are at least a year old. Rickets is seldom mentioned as a cause of infant death.

Scurvy.—No cases were treated in the Government Hospitals.

Markets.—The markets come under the Sanitary Department. The Central and Western Markets are supervised by a special Overseer who is responsible to the Veterinary Surgeon; the other markets are supervised by the District Sanitary Inspectors.

Slaughter Houses.—Slaughter Houses and Animal Depôts are controlled by the Sanitary Department. There is a Government dépôt at Kennedy Town (Hong Kong) for the reception of all cattle, sheep, swine and goats brought into the Colony for slaughter. The Government Slaughter Houses are situated at Kennedy Town (Hong Kong) and at Ma Tau Kok (Kowloon). There are Government controlled slaughter houses at Aberdeen and Sai Wan Ho.

The Government dépôt and slaughter houses are under the direct charge of the Colonial Veterinary Surgeon and Assistant Colonial Veterinary Surgeon and a staff of four Inspectors.

Dairies.—There is a model Dairy-farm in Hong Kong where milk is produced by stall fed cattle under hygienic conditions.

TRAINING OF SANITARY PERSONNEL.

The Medical Officers of Health and the Chief Sanitary Inspector hold classes and give lectures but there is as yet no regular school for teaching such as exists in Singapore.

Hong Kong is an examination centre for the Royal Sanitary Institute and every year examinations are held for the Sanitary Inspectors Certificate, for the Sanitary Science Certificate and for the Meat and Food Certificate. Candidates come from as far as Shanghai to take these examinations. The results of the last two tests have, so far as Hong Kong candidates are concerned, been decidedly disappointing and one of the reasons for the high percentage of failures is the absence of a proper school of training.

SECTION IV.

PORt HEALTH WORK AND ADMINISTRATION.

Reckoned in terms of shipping-tonnage, Hong Kong is one of the five greatest ports in the world. It is the principal commercial entrepôt of Southern China and it is the terminus of the Steamship Lines running between China, Japan, and North America.

In 1930 4,721 British ocean-going steamers and 7,749 foreign ocean-going steamers entered and cleared the harbour. In addition there were 9,578 river steamers, 6,326 launches, and 21,235 foreign trade junks. The total tonnage of vessels entering and clearing was 38,571,650

The Medical Staff engaged in Port Health duties consists of two European Health Officers and two Chinese Medical Officers.

The work of the department includes.—

- (a) Routine inspection of ships.
- (b) Quarantine duty.
- (c) Duty in connection with emigration.
- (d) Vaccination.

The laws dealing with the subject of Quarantine and Port Health are contained in Table L of the Hong Kong Port Regulations, the Asiatic Emigration Ordinance and the Vaccination Ordinance.

During the year 6,236 inward bound ocean-going vessels were boarded by the Health Officers. Of these 2,363 were on the British register and 3,873 on the foreign register.

River steamers from Canton, Macao and West River Ports, also junks and small crafts were only visited when cases of sickness or death were reported.

During the year 165 special visits were made to ships for the purpose of examining persons suffering from infectious but non-quarantineable diseases. 87 permits for the landing of corpses for burial were granted and 42 bodies sent to the mortuary for post-mortem examination. Seven cases of leprosy were detected amongst Chinese passengers. Twenty-four Chinese lunatics and two European lunatics arrived in the Colony during the year. Bills of Health numbering 1,954 were issued.

QUARANTINE.

Hong Kong has no quarantine station for ships' passengers or crews. When segregation is necessary it is carried out on board ship at the quarantine anchorage. A limited number (26) of infectious cases can be accommodated at the Government Infectious Diseases Hospital at Kennedy Town but there is no room for contacts.

During the year no ships were detained in quarantine.

All vessels arriving from "Infected" ports and those having infectious or suspicious cases on board fly the "Q" flag and go to the quarantine anchorage for examination.

The number of vessels arriving in quarantine was 384 with 45,176 passengers and a crew personnel of 43,176. All were examined and those from small-pox infected ports were vaccinated. Where necessary medical supervision of passengers and crews was carried out before pratique was granted.

The total number of persons medically inspected during 1930 was 343,281 or an average of 940 examinations a day.

One hundred and fifteen vessels were fumigated during the year. Fumigations are carried out by a private company but each operation is supervised by a Health Officer.

EMIGRATION.

The Asiatic Emigration Ordinance No. 30 of 1915 requires that emigrant ships shall have:—

- (1) Proper and sufficient living accommodation.
- (2) Proper and sufficient sanitary requirements.
- (3) Proper and sufficient hospital accommodation.
- (4) A sufficient supply of drugs, medical equipment and disinfectants.

It also makes provision for:—

- (1) A proper diet scale.
- (2) The prevention of the export of the unfit.
- (3) The prevention of the export of infectious disease.

The Vaccination Ordinance 1923 requires that all emigrants from the Colony shall be protected against small-pox by vaccination.

The duty of carrying out the sanitary and medical inspection and for vaccinating those who are insufficiently protected falls on the Port Health Authorities.

Emigrants are classified as:—

- (a) "Free emigrants" or those who pay their own passages.
- (b) Assisted emigrants or those whose passages are paid by their prospective employers.
- (c) Women and children.

The total number of emigrants examined during the year was 193,209 of whom 184,934 were free and 8,275 assisted.

The number of rejections was 625.

Owing to the general trade depression in Malaya the Government of that country deemed it advisable to limit the number of Chinese immigrants from China and Hong Kong. From August 1st the shipping companies engaged in that trade were permitted to carry, during each month, 1/10th of the number they had carried on the corresponding month of the previous year.

Owing to the large numbers who left this port previous to August 1st the fall in the total numbers for the year is not so large as it otherwise would have been.

VACCINATION.

The Government Vaccinators are members of the Port Health Staff and work under the general supervision of the Port Health Officer. They are detailed for work at various centres and they assist where needed.

The number of vaccinations performed by these Officers at the centres was 99,270 of which 11,889 were emigrants.

Table I.

Showing Emigration Passes and Rejections for 1930.

<i>Port of Destination.</i>	<i>Passenger.</i>	<i>Crews.</i>	<i>Rejected.</i>
Straits Settlements	121,419	6,956	407
Canada	6,397	13,322	41
United States of America...	7,922	13,459	42
Honolulu	5,350	...	5
Dutch East Indies	36,775	10,248	80
British North Borneo	4,240	2,776	17
Shanghai and Japan.....	3,955	...	...
Australia	1,138	2,740	17
South Sea Islands.....	1,269	258	5
Manila	351	...	...
Peru	817	576	...
Chile	23	326	...
Panama	116	...	...
India	1,924	1,0371	10
Columbia	2	...	...
Mauritius	852	...	1
South Africa...	414	560	...
Brazil and Argentine	245	189	...
Totals	193,209	61,781	625

Table II.

Showing Monthly Returns of Emigrants, Crews and Rejections.

Months.	<i>Ships Examined.</i>	<i>Passengers.</i>	<i>Crews.</i>	<i>Rejected.</i>
January	26	13,605	4,035	24
February	20	9,896	3,315	39
March	38	33,756	5,553	81
April.....	40	29,187	6,219	50
May	33	24,462	5,074	157
June	34	18,636	5,619	67
July	34	15,147	5,542	46
August	32	10,109	5,316	29
September.....	27	10,131	4,612	61
October	34	10,678	6,055	34
November	28	8,748	5,073	23
December	32	8,854	5,368	14
<i>Totals.....</i>	<i>378</i>	<i>193,209</i>	<i>61,781</i>	<i>625</i>

Table III.

Showing Causes of Rejection of Emigrants:—

<i>Diseases.</i>	<i>No. Rejected.</i>
Skin Diseases:—	
Scabies	57
Tinea	9
Favus	5
Dermatitis	1
Urticaria	1
Lupus	1
Eye Diseases:—	
Trachoma	92
Ophthalmia	5
Blindness	2
Iritis	2

Infectious Diseases:—

Chicken-pox	2
Measles	4
Phthisis	3
Leprosy	5
Fever	347
Pneumonia	3
Beri-Beri	5
Gonorrhoea	1
Syphilis	7
Tabes Dorsalis	2
Tuberculosis Spine	1
Lunacy	1
Debility	38
Deformity	5
Chronic Nephritis	5
Enlarged Spleen	4
Enlarged Glands	1
Carbuncle	1
Cellulitis	1
Abscess of Buttock	1
Tonsillitis	2
Bronchitis	1
Parotitis	1
Gastric Ulcer	1
Enteritis	1
Ulcer of Leg	1
Paraphimosis	1
Paralysis	1
Adenoma	1
Jaundice	3
TOTAL	625

Table IV.

Showing number of passengers, crews and ships arriving in Quarantine each month, 1930.

Months.	No. of Passengers.	No. of Crews.	No. of Ships.
January	26	88	1
February .....	...	...	...
March	8,417	7,019	59
April	9,784	9,600	81
May	11,265	13,148	102
June	7,983	7,369	77
July	4,022	2,077	18
August	589	738	14
September	1,683	2,219	23
October	1,070	623	6
November	166	70	1
December	171	164	2
 Totals	 45,176	 43,115	 384

Table V.

Showing Quarantine Notifications issued by the Hong Kong Government for 1930.

Port or Locality.	Disease.	Date and Number of Notification.	Date and Number of Cancellation.
Shanghai ...	Cerebro-Spinal Meningitis.	No. 146 of 10th March, 1930.	No. 375 of 16th June, 1930.
Bankok	Cholera.	No. 258 of 30th April, 1930.	No. 417 of 5th July, 1930.
Saigon	Cholera.	No. 272 of 6th May, 1930.	No. 475 of 31st July, 1930.
Cebu	Cholera.	No. 434 of 16th July, 1930.	No. 582 of 16th September, 1930.
Ilo-Ilo	Cholera.	No. 450 of 25th July, 1930.	No. 622 of 8th October, 1930.
Manila	Cholera.	No. 565 of 9th September, 1930.	No. 623 of 8th October, 1930.

SECTION V.

MATERNITY AND CHILD WELFARE.

Anti-natal and Infant Welfare Centres.

Tsan Yuk Hospital.—An anti-natal Clinic was started in April. The number of patients treated numbered 124 with 209 attendances. The Infant Welfare Clinic is only for babies born in the hospital. The number of babies brought to the Clinic was 589 (476 in 1929) and the total number of visits 2,394 (2,001 in 1929).

Tung Wah Hospital.—The number of attendances at the Infant Welfare Clinic was 2523 (1704 in 1929).

The Alice Memorial and Affiliated Hospitals.—The number of new cases who attended the Special Anti-natal Clinic was 81, while the number of babies born in the hospital who were brought to the Special Infant Welfare Clinic was 225. A number of Anti-natal cases and infants attended the ordinary afternoon Clinics and are not included in the above totals.

In addition to the above the Chinese Y.W.C.A. maintains an Infant Welfare Centre and the Military Authorities have one for the benefit of the children of the European garrison, to the latter of which is attached a trained European Nursing Sister.

Midwives.

Under the Midwives Ordinance of 1910 “No one whose name is not on the Midwives Register may practice midwifery habitually for gain or describe herself as one specially qualified to carry on the work of a Midwife.”

Training Schools for Midwives have been established at the Alice Memorial, Tsan Yuk, Tung Wah, Tung Wah Eastern, Kwong Wah, and Government Civil Hospitals. The course and study necessary to qualify for examination is two years except for those who have completed a course in general nursing, when it is six months.

During 1930, 23 Candidates out of 25 satisfied the examiners and were registered. In addition one qualified European and one Japanese Midwife were admitted to the Register.

The total number on the Midwives Register at the end of 1930 was 165.

There are seven Midwives on the Government Medical establishment whose services are free to those who cannot afford to pay a fee. Four of these are stationed in the New Territories, and three for duty in connection with the Chinese Public Dispensaries. All are supervised by a Government Lady Medical Officer.

During the year 1248 cases (1194 in 1929) were attended by Government Midwives.

Maternity Hospital Accommodation.

The total hospital accommodation for maternity cases is 255 beds and the number delivered in hospitals was 8866 (8391 in 1929).

<i>Hospital.</i>	<i>Beds.</i>	<i>Deliveries.</i>
Government Civil	21	678
Victoria	32	69
Tsan Yuk	46	1,251
Wanchai	22	815
Tung Wah	24	1,929
Tung Wah East	14	472
Kwong Wah	57	3,097
Alice Memorial	18	437
Matilda	8	39
Peak	2	15
St. Paul's (French)	9	57
Canossa	2	7
Total	255	8,866
 	<hr/>	<hr/>

Maternity Bungalow at the Government Civil Hospital.

The Bungalow has accommodation for 21 patients, and is mainly for the use of Asiatic women. Europeans as a rule find accommodation at the Victoria Hospital.

There are three general wards with a total of 16 beds, two private wards with two beds each and one isolation ward with one bed.

The majority of the patients being non-paying, are under the care of the University Clinic.

The admissions during the year were 755 (790 in 1929) making a total of 760 treated—of these 117 were treated by the Government Medical Officers and 643 by the Professor of Obstetrics and his Assistants.

The nationalities were as follows:—

European	2
Japanese	29
Indians	50
Chinese	674
Eurasian	5
Total	760
 	<hr/>

There were six deaths, all Chinese, the causes being:— Cardiac failure 3, Chronic Nephritis 1, Puerperal Sepsis 1, Ectopic Gestation 1.

THE VICTORIA MATERNITY HOSPITAL.

The number of beds in this Hospital is 32.

There were 2 mothers and 1 infant remaining in the Hospital at the end of 1929. During the year there were 69 admissions making a total of 71 treated. There were 69 deliveries, the sexes being male 34, female 35.

The daily average of patients was 6, including infants.

The Hospital is available for private patients who wish to be attended by their own doctors. Thirteen patients availed themselves of the privilege.

There were no maternal deaths. One child was stillborn.

Two mothers and one infant remained under treatment at the end of 1930.

CHINESE MATERNITY HOSPITALS.

There are two Chinese Maternity Hospitals under the management of the Chinese Dispensaries Committee, and in addition there are maternity wards in each of the hospitals under the management of the Tung Wah Hospital Committee. In all the hospitals maternity patients are treated by Western methods.

THE TSAN YUK MATERNITY HOSPITAL (60 beds).

The whole of the In-patient work of this Hospital is in the hands of Dr. R. E. Tottenham, Professor of Obstetrics to the University of Hong Kong. During his absence on leave, his assistant Dr. D. K. Pillai was in charge. Both Maternity and Gynaecological patients are admitted, 46 beds being reserved for the former and 14 for the latter cases.

The total number of deliveries was 1251 (1185 in 1929) out of a total of 1326 admissions (1274 in 1929). There were 2 maternal deaths and 69 children were still-born.

The Clinical work in the out-patient department is at present being carried out by the staff of the Government Visiting Medical Officer for Chinese Hospitals and Dispensaries. In addition to the treatment of ordinary Gynaecological cases, special clinics are held for Ante-natal, Infant Welfare and Venereal Diseases cases.

THE WANCHAI MATERNITY HOSPITAL. (22 beds).

This Hospital is connected with the Wanchai Public Dispensary. A Western trained Chinese Doctor is in charge.

The number of admissions was 827 (957 in 1929) and the number of deliveries 815 of which 35 were still-births.

There was one death, the cause being puerperal septicaemia.

TUNG WAH HOSPITAL MATERNITY WARDS (24 beds).

During the year there were 1929 deliveries out of a total of 1955 cases treated. There were no maternal deaths, but 354 infants were still-born.

TUNG WAH HOSPITAL (EASTERN) MATERNITY WARDS (14 beds).

During the year there were 472 admissions and the same number were delivered with 7 maternal deaths. 26 infants were still-born.

KWONG WAH HOSPITAL MATERNITY WARDS (57 beds).

The total number of patients treated numbered 3,133 of which 3,082 were delivered. There were 18 maternal deaths and 174 still-births.

SECTION VI.

HOSPITALS, INSTITUTES, ETC.

The Government Hospitals are:—The Government Civil Hospital, the Victoria Hospital, Kowloon Hospital and the Infectious Diseases Hospital. The Peak Hospital is an Institution maintained by Government as a Nursing Home where patients can be treated by their own doctors.

During the year Wireless Apparatus was installed in several wards in each of the Government Hospitals and has been greatly appreciated by the patients.

GOVERNMENT CIVIL HOSPITAL.

The Government Civil Hospital which was built in 1874, and which occupies a site in the middle of the most populous area, is the largest government hospital in the Colony. It has accommodation altogether for 246, including 21 maternity beds, 100 of which have been placed under the control of the clinical professors of the Hong Kong University who are also in charge of the outpatients department. Attached to and adjacent to this institution are the Maternity Bungalow and the Mental Hospital.

Dr. I. Newton was the Medical Officer in charge during the year. He was assisted by Dr. G. H. Thomas and Dr. T. Z. Bau.

The number of in-patients, exclusive of those in the maternity block and mental hospital, was 4,788 (5,108 in 1929), of which 1,124 were treated by the University staff and 3,664 by the Government Medical Officers.

The daily average number of in-patients was 184, that for the previous year was 178.

The nationality of the patients was:—

European	470
Indian	1,064
Chinese	3,163
Other Asiatics	91
Total	4,788

The in-patients treated by the University staff numbered 1,124 made up as follows:—medical cases 568, surgical cases 449 and gynaecological cases 107.

A large proportion of the total patients received treatment free of charge.

There were 318 deaths and of these 128 occurred within 24 hours of admission. The case death rate was 66.42 per mille as compared with 71.66 in 1929.

1,022 major operations were performed. (University Clinic 766. Government Staff 256).

A detailed list of the number of cases treated and the number of deaths is given in the Appendix.

Malaria.—There were 346 cases as compared with 448 in 1929.

Diphtheria.—Out of 26 cases there were 9 deaths (41 cases with 24 deaths in 1929). This high mortality was due to the fact that the majority of cases had the disease well advanced before they were brought for treatment.

Pulmonary Tuberculosis.—There were 137 cases treated with 40 deaths.

Syphilis.—(acquired) accounted for 104 cases as compared with 96 in 1929; Gonorrhoeal cases numbered 142 as compared with 101 in 1929. The figures are too small and the factors too numerous for any useful conclusion to be drawn.

There were 776 accidents of a nature so serious as to require treatment as in-patients.

The Police Force.—The total number of admissions and death were as follows:—

	<i>Admissions.</i>	<i>Deaths.</i>
British	126	3
Russian Ship Guards	15	0
Indians	589	2
Chinese (Cantonese)	98	1
Chinese (Wei-hai-wei)	108	0
Total	936	6

Government Servants were attended to daily as out-patients between the hours of 9 a.m. and 10.30 a.m. The daily average was 34.

Out-patient Department.—This department is open both morning and afternoon. The work is entirely in the hands of the University Staff, except for the male V. D. Clinic which is under a Government Medical Officer. The number of attendances was 45,682 (52,127 in 1929) exclusive of V. D. cases. In addition 9,740 patients attended for dressings. The Out-patients received medicines and dressings free of charges. Teaching clinics were held at certain hours. The number of prescriptions dispensed was 35,992.

VICTORIA GENERAL AND MATERNITY HOSPITAL.

The Victoria Hospital which was originally built for the accommodation of women and children is now a general and maternity institution. Situated in the residential area well above the level of the town it has a clear view across the harbour of the territory on the opposite side. There are 42 general beds and 32 maternity beds, in separate blocks with entirely separate staff for each building.

Dr. J. T. Smalley was the medical officer in charge, assisted by Dr. K. H. Uttley, till March 25th when Dr. D. J. Valentine M. C. took over charge assisted by Dr. J. E. Dovey.

The total number of patients treated in the general block was 500, of which 77 were men, 276 women and 147 children.

The average daily number was 19.

The Nationality of those treated was:—

Europeans	448
Indians	1
Japanese	3
Chinese	38
Eurasian	10
<i>Total</i>	500

There were six deaths, the causes being:—Uraemia 2, Pulmonary Tuberculosis 1, Meningitis 1, Sub-tertian Malaria 1, Prematurity 1.

The maternity side of the Institution is described in the section dealing with Maternity and Child Welfare (V).

KOWLOON HOSPITAL.

This Hospital is situated on the mainland and consists of two Blocks containing 58 beds. There is no accommodation for maternity patients and no general wards for Asiatic women. Such cases, when admitted in emergency, are treated in the private wards.

Work was begun, during the year, on the preparation of a site for a Maternity Block which it is expected will be ready for occupation early in 1932.

Dr. D. J. Valentine, M.C. was in charge till March 25th when he was relieved by Dr. J. T. Smalley. Dr. J. E. Dovey attended the Out-patient Department till March 25th when he was relieved by Dr. K. H. Uttley.

Dr. A. D. Wong was Assistant Medical Officer till October 25th when he was relieved by Dr. P. Court.

1,691 patients were admitted (1,231 in 1929), of which 1,345 were males and 349 females. The nationalities were made up as follows:—

		<i>Males.</i>	<i>Females.</i>
Europeans	553	313	240
Chinese	1,076	989	87
Other Asiatics	65	43	22

Daily average number of patients: 43.8 (41 in 1929).

Number of Police admitted:—

<i>Europeans.</i>	<i>Chinese.</i>	<i>Indians.</i>
81	244	1

During the year 439 operations were performed under general anaesthesia (164 in 1929).

Out-patient Department.—The number of out-patients visits recorded as compared with the previous years were as follows.—

	1927.	1928.	1929.	1930.
New Cases	6,918	9,626	9,987	9,471
Old Cases,	2,067	3,482	3,197	3,029
Dressings	2,129	3,980	3,086	5,482
<i>Total</i> ...	11,114	17,088	16,270	17,982

The number of prescriptions dispensed in the Out-patient Department was 13,521.

Male patients suffering from active venereal diseases were referred to the Venereal Diseases Clinic at the Government Civil Hospital, and women were referred to the Tsan Yuk and Kwong Wah Hospitals.

GOVERNMENT DISPENSARIES.

The Dispensaries maintained by Government during the year under review were the Taipo Dispensary and the Un Long Dispensary.

TAIPO DISPENSARY—(New Territories).

Dr. C. H. Luk was Chinese Medical Officer in charge till October 25th when he was relieved by Dr. A. D. Wong. The number of visits during the year as compared with 1929 was as follows:—

	1929.	1930.
New Cases,	2,471	2,683
Old Cases,	1,988	2,411
Vaccination,	2,132	1,632
<i>Total</i>,	6,591	6,726

UN LONG DISPENSARY—(New Territories).

This Dispensary—which is in charge of a dresser—is visited twice a week by the Chinese Medical Officer. The number of cases treated during the year was 5,012 as compared with 5,806 in 1929. The number of vaccinations was 686—the number for 1929 was 1,730.

VENEREAL DISEASES CLINICS.

Government Civil Hospital.—A Clinic for males was held at the Government Civil Hospital; from 5 to 7 p.m.; on Tuesdays for Europeans, Wednesdays for Chinese and Thursdays for Indians. This Clinic was under the supervision of a Government Medical Officer; Dr. K. H. Uttley being in charge till April 1st when he was relieved by Dr. J. E. Dovey.

A Clinic for females was held on Fridays from 5 to 7 p.m. by Dr. D. K. Pillai, in connection with the University Clinic.

The following were treated at the male Clinic:—

Europeans	71
Chinese	494
Indians	116
<i>Total</i>	<u>681</u>

The diseases treated were as follows:—

Syphilis	262
Gonorrhoea	267
Chancroid	152
<i>Total</i>	<u>681</u>

578 Specimens of blood were sent to the Government Bacteriologist for examination for the Wassermann reaction.

The total number of attendance was 3,530 (2,907 in 1929).

At the Clinic for females, 366 new cases and 524 old cases were treated.

The total number of bloods examined for the Wassermann reaction was 107, of which 58 were positive, 42 negative and 7 doubtful. All positive cases receive injection of 914 free of charge.

The total number of cases of Gonorrhoea treated was 109, of whom 11 were pregnant.

Tsan Yuk Hospital.—A Clinic for Chinese women is held weekly by a Government Lady Doctor. 343 patients were treated, with a total of 887 visits to the Clinic.

The diseases treated were as follows:—

Syphilis	65
Gonorrhoea	156
Gonorrhoea and Syphilis	38
Soft Chancre	9
No appreciable disease	75
<hr/>	
<i>Total</i>	343
<hr/>	

258 specimens of blood were examined for the Wassermann reaction and of these 86 were positive, 152 negative and 15 doubtful.

229 injections of N.A.B. were given.

In addition to the above Clinics, Venereal cases were seen at the Out-patient Departments of the various Hospitals and Dispensaries.

X-RAY DEPARTMENT.

Dr. Farr was in charge during the year assisted by Miss Siggins C.S.M.M.G., B.P.A., as Masseuse Electro-therapist and Mr. J. Skinner B.P.A., as Radiographer.

A considerable amount of new equipment was ordered and some of it was delivered towards the end of the year. It is expected that early next year X-ray, Massage, and Electrical treatment, will be available at each of the Hospitals. In addition to the fixed installations, portable X-ray apparatus has been provided at both the Civil and Kowloon Hospitals.

Radium.—At the suggestion of Dr. J. H. Montgomery, Medical Superintendent of the Matilda Hospital, the Committee of that Institute have purchased a supply of radium and generously made it available for use in all hospitals of the Colony, free of charge. Advantage was taken of this and many cases of cancer were treated, mainly in the University Clinic under the supervision of Professor K. H. Digby. Though many of the cases were far advanced some spectacular results were obtained.

Statistics:—

	1930	1929
Massage & Electrical Treatment	3934	3879
Cases for Radiological Examination ...	1902	1728
Films exposed	3309	3540
Fees paid to the Treasury	\$ 3,878.50	\$ 3,182.25
Value of work done X-ray	\$36,534.00	(no)
Massage & Electrical	\$14,752.50	(record)
<i>Total</i>	<i>\$51,286.50</i>	

The greater part of the work is done for patients who are unable to pay.

THE CHINESE HOSPITALS AND DISPENSARIES.

The Chinese Hospitals (4 in number *viz* 3 general and 1 for infectious diseases) are Chinese Institutions whose relation to Government has been established by Ordinance. They are subsidised by Government, are subject to inspection by certain Government Officials and each has a Chinese member of the Medical Department on its Resident Staff.

The authority in administrative control is a Committee of Chinese gentlemen elected each year by the subscribers.

These Hospitals were originally established to give accommodation to those Chinese whose fears and prejudices against Western Medicine prevented their applying for relief at the Government Hospitals. The Tung Wah Hospital situated in Hong Kong was first occupied in 1873. The Kwong Wah Hospital was built in Kowloon in 1911 as an extension of the Tung Wah. The Tung Wah Eastern Hospital, another branch of the Tung Wah situated in the eastern district of Victoria, was opened on November 27th 1929.

The Government gave the sites free and with grants of money assisted in the erection of the buildings. In addition both Hospitals and Dispensaries receive yearly grants from Government funds.

The activities of the Chinese Hospitals include:

- (a) The care of the sick and treatment by Western methods or Chinese methods according to the wish of the patient.
- (b) Maternity benefits and infant welfare—by Western methods only.
- (c) Assistance to the destitute.
- (d) The provisions of coffins for, and the burial of the dead.
- (e) Vaccination.
- (f) Health propaganda.

Progress in the Chinese Hospitals.—Much progress has been made in all departments of the Hospitals during the last few years. The improvements include:—

- (a) The appointment of University graduates as full-time Resident Medical Officers.
- (b) The foundation of training schools for female nurses.
- (c) Extensions and improvements in the male nursing section.
- (d) The establishment of Clinical laboratories in charge of full-time laboratory assistants.
- (e) The installation of a shadowless scialytic lamp in the operating theatre.
- (f) The provision of X-Ray Apparatus.
- (g) The purchase of a motor ambulance.
- (h) Improvements in the accommodation for patients.
- (i) Improvements in quarters for staff.

The training course for nurses is spread over three years, the first two for general work, the third for obstetrical training.

A few years ago Surgery in the Chinese Hospitals was almost non-existent. In 1930 there were 1343 operations performed many of which belong to the category of major operations. The growth of this side of curative medicine shows the advance which has been made in the campaign against prejudice. This has been brought about by a combination of factors chief among which are the improvements which have been made in Wards and Theatres, the better nursing, the keenness of the Directors and of the Staff, and last but by no means least the stimulating influence of the Government Visiting Medical Officers.

THE TUNG WAH HOSPITAL.

The number of beds in this Hospital is 460 of which 24 are reserved for maternity cases.

The staff consists of a Chinese Government Medical Officer, paid by the Government, and three Resident Medical Officers whose salaries are paid by the Hospital. There are in addition a number of Chinese Doctors who practise Chinese Medicine for the benefit of those who prefer that treatment.

Dr. Phoon Seck Wah was the Resident Government Medical Officer.

The total number treated during 1930 was 240,717 of which 208,030 were treated by Chinese Methods and 32,687 by Western

Methods. The number of in-patients was 12,772 including 1,928 maternity patients. Deducting the maternity cases, all of whom are treated by Western methods, the general cases numbered 10,844, of which 5,296 or 49 per cent were treated by Western methods.

The number of out-patients was 227,945 of which only 25,463 or 11.1 per cent chose Western treatment.

1,061 operations were performed, many of these being major operations. Included in this figure are 500 operations on the eye.

Deaths.—There were 2,165 deaths, of which 411 occurred within 24 hours of admission.

In addition 1,501 bodies were brought to the hospital for burial.

The Maternity work of this Institution is described in the section dealing with Maternity and Child Welfare (V).

THE KWONG WAH HOSPITAL.

General beds 234. Maternity beds 57.

This hospital is an extension of the Tung Wah Charity. Situated in Kowloon it provides for the Peninsula what the Tung Wah Hospital does for Hong Kong.

The staff consists of a Chinese Government Resident Medical Officer, whose salary is paid by the Government, and two other Resident Medical Officers paid by the Hospital.

Dr. Cheng Kung San was the Resident Government Medical Officer.

There are also a number of Chinese Doctors who practise Chinese Medicine.

The total number of patients treated was 150,068, of which 97,267 were treated by Chinese methods and 52,801 by Western methods.

The number of in-patients was 9,777 including 3,097 maternity cases. Deducting the maternity patients, all of whom are under Western treatment, the general cases numbered 6,680 of which 3,929 or 58.8 per cent were treated by Western methods.

The number of out-patients was 140,291, of which 45,536 or 31.1 per cent chose Western treatment, and 94,755 Chinese treatment.

179 operations were performed under general anaesthesia.

Deaths.—There were 2,458 deaths and of these 885 died within 24 hours of admission.

794 bodies were brought to the hospital for burial.

THE TUNG WAH EASTERN HOSPITAL.

This hospital was opened on November 27th, 1929. It is an extension of the Tung Wah Hospital and is intended to serve the eastern portion of the City of Victoria. The hospital is built on modern lines and has central heating.

During the year an extension of two wings of three floors each was added to the main building and was opened by Lady Peel on the 16th December 1930. The top floor of one wing provides accommodation for the nurses and the top floor of the other wing serves as a Maternity Ward of 14 beds. The other floors provide two male and two female wards, containing 14 beds in each.

The total number of beds in the Hospital is now 195, of which 14 are reserved for Maternity cases.

The staff consists of a Chinese Government Medical Officer, whose salary is paid by Government, and two Resident Medical Officers paid by the Hospital.

Dr. Phoon Seck Weng was the Resident Government Medical Officer.

As in the case of the Tung Wah and Kwong Wah Hospitals, patients may choose either Western or Chinese treatment.

The total number of patients treated was 57,322 of which 46,317 were treated by Chinese methods and 11,005 by Western methods. The number of in-patients was 3,122 including 472 maternity cases. Deducting the maternity cases all of whom are treated by Western methods, of the remaining 2,650 general patients 1,796 or 56.6 per cent were treated by Western methods. The number of out-patients was 54,200 of which 8,764 or 16.17 per cent choose Western treatment.

Deaths.—There were 622 deaths in hospital, of which 215 occurred within 24 hours of admission.

103 operations were performed under general anaesthesia.

THE CHINESE PUBLIC DISPENSARIES.

The Chinese Public Dispensaries, nine in number, were established for the purpose of supplying medical advice and treatment on Western lines. Situated in the most thickly populated districts they fulfil a very useful purpose, not only in the matter of treatment but also as foci for the spread of knowledge concerning the causes of disease, the means of spread and the value of Western drugs and methods both in prevention and cure.

Each Dispensary is controlled by a separate Committee of Chinese gentlemen who work in close touch with the Secretary for Chinese Affairs and each is in direct charge of a Chinese Medical Practitioner qualified in Western Medicine.

In addition to ordinary work of a dispensary, these Institutions serve as places where the poor may apply for assistance in matters connected with:—

- (a) the removal of patients to hospital.
- (b) certification as to causes of death.
- (c) removal of corpses to mortuaries.
- (d) supply of coffins.

The work done by these Dispensaries increases year by year. As only Western treatment is dispensed, it is evident that the Chinese are not adverse to Western treatment where it is easily available.

There are four Officers of the Government Medical Department whose duty it is to visit the various Chinese Medical Institutions—both hospitals and dispensaries—and to give advice and assistance.

Dr. T. W. Ware was Visiting Officer to the Chinese Hospitals and Dispensaries during the year and was assisted by the following Lady Doctors:—

Dr. (Mrs.) A. L. Dovey, Dr. (Miss) P. C. Lai and

Dr. (Miss) P. Ruttonjee.

On September 26th a Dispensary was opened at Aberdeen, a fishing village of about 5,500 inhabitants, situated on the south side of the Island. During the last three months of the year 1,593 new cases and 1,302 old cases were treated.

Plans have been approved for a new Dispensary at Kowloon City and for enlargement of the Central and Yaumati Dispensaries.

During the year a total of 122,395 new cases were treated and in addition there were 98,385 visits from old cases and 27,340 attendances for dressings.

Free vaccination is available at all Dispensaries.

Gynaecological Clinics are held once a week at each Dispensary by one of the Lady Assistant Visiting Medical Officers.

The following Table shows the work done during the year:—

SUMMARY OF WORK DONE BY THE CHINESE DISPENSARIES IN VICTORIA AND THE KOWLOON PENINSULA.

Dispensaries.	Patients		Certificate of cause of death.	Patients sent to Hospital.	Patients removed to Hospital or Ambulance.	Corpses removed to Hospital or Mortuary.	Application for coffins.	Dead infants brought to Dispensary.	Vaccination done in Dispensary.	Gynaecological cases seen by Lady Doctor.
	New cases	Old cases								
Central	13,832	13,557	—	40	9	27	15	2,876	326	
Eastern.	10,061	9,566	5	8	22	330	41	2,810	629	
Western	11,312	11,422	35	—	30	272	319	2,868	1,011	
Harbour & Yaumati	30,113	30,398	73	21	56	221	—	5,159	1,411	
Shaukiwan	25,493	19,289	22	66	3	4	4	4,740	1,341	
Shamshuiipo	10,892	2,903	—	34	—	—	—	113	2,785	
Hung Hom	11,030	4,690	—	188	29	240	—	131	1,620	
Aberdeen	1,593	1,302	55	32	7	136	—	—	65	
Kowloon City	8,069	5,258	111	78	45	98	—	84	2,319	
										10
<i>Total</i> 1930,	122,395	98,385	301	417	201	1,078	391	1,304	25,242	5,966
<i>Total</i> 1929	114,630	94,725	340	459	294	1,033	453	1,282	27,564	4,764

INFECTIOUS DISEASES HOSPITALS.

There are two Infectious Diseases Hospitals—one maintained by the Government and the other by the Tung Wah Charity. They are situated at the Western end of the City of Victoria in adjoining compounds. There is no Infectious Diseases Hospital in Kowloon.

THE GOVERNMENT INFECTIOUS DISEASES HOSPITAL.

This was originally a Police Station, but was adapted as a hospital and has accommodation for 26 beds in six wards.

During the year the hospital was under the charge of Dr. T. W. Ware. Except when there are patients occupying it there is only a skeleton staff on the premises.

During the year only 4 cases of Small-pox were treated and one case of Chicken-pox sent in as suspected Small-pox. In addition one case of Leprosy was treated.

The following Table shows the Nationality and sex of those treated for Small-pox:—

Nationality.	Remaining at the end of 1929.	Number treated.			Died	Remaining at the end of 1930.
		Male	Female	Total		
Europeans	0	2	0	2	0	Nil.
Chinese	0	0	0	0	0	„
Other Asiatics ...	1	1	0	2	0	„
Total	1	3	0	4	0	„

THE TUNG WAH INFECTIOUS DISEASES HOSPITAL.

The Tung Wah Infectious Diseases Hospital, erected by the Tung Wah Charity Organization in 1902, consists of three two-storied blocks of wards and an administrative block all connected on both floors by covered ways. The ground floor wards are divided into four cubicles by partitions six feet high, the top floor wards are open all through.

There is accommodation for sixty beds.

The Institution is under the same management as the Tung Wah Hospital and when occupied is staffed by that Hospital.

This hospital was built for the purposes of treating Chinese patients who from fear or prejudice objected to entering the Government Hospital. As in the General Hospital under Chinese Management the patients may choose either Eastern or Western Treatment. The majority of patients choose to be treated by the Chinese Herbalist.

During 1930 only Small-pox cases were treated. The number of admissions was 63 making a total of 73 cases treated. The number of deaths was 25 giving a percentage of deaths to treated of 34.2.

It is said that the Chinese believe wind, water and scrutiny by strangers to be detrimental to recovery in cases of Small-pox. Whether this be true or not, the cases are kept carefully wrapped up in their own clothes until death or recovery.

SECTION VII.

PRISONS AND ASYLUMS.

PRISONS.

The principal prison of the Colony is situated in Victoria, a branch prison being situated at Lai Chi Kok on the Kowloon side of the Harbour. The former has accommodation for 800 prisoners, the latter for about 500. Females are only received at Victoria Gaol.

During 1930 the general health of the prisoners continued to be satisfactory.

The total number of admissions to Victoria Gaol was 6,493, of which 5,948 were males and 545 females. The daily average number of inmates was 734, and the daily average number of sick in hospital was 24.98. The sickness rate was 33.9 per mille and the death rate was 15 per mille.

The daily average number of prisoners at Lai Chi Kok was 441; the total number treated in Hospital was 656 and the daily average number in hospital was 11.

The hospital at Victoria Gaol accommodates 30 patients. During the year 75 prisoners were transferred to the Government Civil Hospital for treatment not available in the prison hospital, six of these were maternity cases. These prisoners are returned to the Gaol when fit.

Four prisoners were released on Medical grounds.

There were 13 deaths from natural causes, 11 of which took place in the Gaol Hospital, one at the Government Civil Hospital and one at Lai Chi Kok.

The causes of death were as follows:—

Pulmonary Tuberculosis	9
Cerebral Haemorrhage	1
Bacillary Dysentery	1
Pneumonia	1
General Peritonitis	1
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<i>Total</i>	13
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There were two executions.

The following statistical Table shows totals, averages and percentages for the ten years 1921—1930 inclusive:—

STATISTICAL TABLES SHOWING TOTALS, AVERAGES AND PERCENTAGES IN COMPARISON WITH PRECEDING NINE YEARS.

THE MENTAL HOSPITAL.

The Mental Hospital which is an annex to the Government Civil Hospital has accommodation for 14 Europeans and 18 Asiatics.

This Institution is intended to be used only as a temporary abode for the mentally affected pending arrangements being made for their transfer to Europe or to Canton.

The Medical Officer of the Government Civil Hospital is in administrative charge.

Patients.

Remaining from 1929	31
Admissions during the year	293
	— 324
Discharged apparently cured	96
,, relieved	86
Transferred to the Mental Hospital, Canton	100
Died	8
Remaining at the end of 1930	34
	— 324

SECTION VIII.

METEOROLOGY.

Situated just within the northern limits of the tropics occupying an insular position immediately to the south of the great mass of China, Hong Kong's Climate is very materially influenced by the direction of the prevailing winds.

The North East Monsoon blows from November to May and during this period the weather is dry, cool and invigorating. From May until October, the season of the South West Monsoon, the air is highly charged with moisture and the climate is hot, muggy and enervating.

The mean annual temperature is 72° . During the summer months the average maximum temperature is 87° and there is little difference throughout the 24 hours. Situated on the North side of the Island the City of Victoria gets all the heat and moisture of the South West Monsoon but not the breeze itself which is cut off by the mountain behind the town. During the Winter months the range of temperature is from 70° to 45° with an average of 66° .

A Table is attached giving the means or totals of the meteorological data for the several months of the year 1930.

METEOROLOGICAL DATA.

The following Table I. gives the means or totals of the Meteorological Data for the several months of the year 1930.

Month.	Barometer at M.S.L.	Temperature.			Humidity.			Wind.			
		Max.	Mean.	Min.	Rel.	Abs.	Cloudiness.	Sunshine.	Rain.	Direction.	Velocity.
January	30.19	59.1	54.6	50.9	75	0.33	85	71.3	2.275	NE by N	8.2
February	30.15	65.0	60.3	56.5	76	0.42	63	155.3	1.380	E by N	11.9
March	30.08	68.8	63.9	60.1	76	0.46	81	120.0	7.230	E by N	11.0
April	29.93	77.4	73.5	70.6	87	0.72	80	140.3	2.100	E by S	13.2
May	29.85	83.5	79.2	76.2	82	0.82	72	204.4	6.185	E by S	11.7
June	29.81	86.7	81.9	78.3	81	0.88	73	215.4	12.245	SE	9.9
July	29.61	86.8	82.3	78.5	83	0.91	78	175.2	29.025	SE by S	11.9
August	29.76	86.9	82.1	78.5	82	0.90	58	256.9	6.065	S	6.5
September	29.87	83.7	79.4	76.4	82	0.82	79	137.0	28.245	E by N	14.3
October	30.01	81.7	76.8	73.1	73	0.67	44	271.3	0.410	E by N	9.8
November	30.16	75.7	70.7	66.7	70	0.53	50	205.5	0.035	ENE	10.5
December	30.16	68.2	64.0	60.6	75	0.46	80	120.1	0.890	ENE	11.7
Mean or Total	29.96	76.9	72.4	68.9	78	0.66	70	172.7	8.005	E	10.9

SECTION IX.

SCIENTIFIC.

BACTERIOLOGICAL INSTITUTE.

The Activities of the Institute include:—

- (a) the preparation of vaccine lymph,
- (b) „ „ „ sera.
- (c) „ „ „ bacterial vaccines.
- (d) „ „ „ rabies vaccine.
- (e) examination of pathological material.
- (f) „ „ „ waters, milks, etc., etc.,
- (g) medical research.

The Institute is under the charge of the Government Bacteriologist who is assisted by the Assistant Bacteriologist and four unqualified laboratory assistants.

Particulars of the work done during the year are contained in the Annual Report of the Bacteriologist—which is appended.

THE PUBLIC MORTUARIES.

There are two Public Mortuaries, one being in Victoria and the other in Kowloon.

At these places for the reception of the dead are received:—

- (a) bodies from Chinese Hospitals and Dispensaries for diagnosis.
- (b) “dumped” bodies—that is to say—bodies which have been taken from the place of death under cover of night and dumped in the street to save trouble and expense. The great majority of these have died natural deaths and there is no need for concealment.
- (c) bodies sent by the Police for medico-legal examination.
- (d) bodies sent by the Medical Officer of Health for examination for signs of infectious disease or for simple diagnosis.

In all cases where diagnosis cannot otherwise be made a *sectio cadaveris* is performed.

All dead rats collected by the Sanitary Authorities are taken to the Mortuaries for examination with regard to plague. Some of these are caught by the rat catching gang but the majority are taken from the rat boxes or bins placed about the city for the reception of dead rodents.

The Public Mortuary, Victoria, is in charge of the Assistant Bacteriologist, but the Public Mortuary, Kowloon, is under a Medical Officer who has been detailed for that work in addition to other duties.

PUBLIC MORTUARY, VICTORIA.

Report on Post-mortem Examinations, 1930.

Number of post-mortem examinations performed	3,127
Male bodies examined	1,421
Female bodies examined	1,706
Claimed bodies sent from hospitals &c.	100
Unclaimed bodies mostly abandoned	3,027
Number of Chinese bodies examined	3,124
,, ,, European	3

Bodies were received from the following sources:—

Victoria District	3,006
Harbour Police	21
Shaukiwan District	80
Other Villages	20

Number of rats examined	87,349
Number found plague infected	0

PUBLIC MORTUARY, KOWLOON.

Report on Post-Mortem Examinations, 1930.

Number of post-mortem examinations performed	2,391
Male bodies examined	1,452
Female bodies examined	939
Claimed bodies sent from hospitals, &c.	215
Unclaimed bodies mostly abandoned	2,176
Number of Chinese bodies examined	2,376
,, ,, European	5
,, ,, Indian	5
,, ,, Japanese	3
,, ,, Unknown	2

Bodies were received from the following sources:—

Kowloon District	2,115
Harbour Police	276

Number of rats examined	52,444
Number found plague infected	Nil.

ANALYST'S DEPARTMENT.

The report of the Government Analyst is given in the Appendix.

APPENDIX A.

GOVERNMENT BACTERIOLOGICAL INSTITUTE.

Report for the year 1930.

By E. P. Minett, M.D., D.P.H., D.T.M. & H.,
M.R.C.S., L.R.C.P.

Government Bacteriologist.

STAFF.

Dr. Greaves was appointed as Assistant Government Bacteriologist on 20th December 1929 and arrived in the Colony on 27th January, 1930, to take up his duties.

Dr. Laing, who was employed as Bacteriological Assistant, resigned on 31st January 1930, his temporary appointment having lapsed.

Dr. Minett was on leave from 3rd April to 11th May 1930.

Dr. Greaves was detailed to attend the conference of the Far Eastern Medical Association at Bangkok and was away from 26th November to 28th December 1930.

In October Dr. Greaves was appointed to act as teacher of Morbid Anatomy and Pathology at the University of Hong Kong.

RESEARCH WORK.

An investigation, is at present being carried out, of the Coliform organisms isolated from milk and the local raw water supplies. A paper on the influence of the various organisms present in milk on the Reductase test is in course of preparation by the Government Bacteriologist and Mr. K. T. Leung.

A paper on the Post-mortem findings in two hundred cases of Tuberculosis amongst Chinese infants, by the Government Bacteriologist, was sent for publication with the consent of the Honourable Director of Medical and Sanitary Services.

A review of the water supplies of Hong Kong by the Government Bacteriologist, was published in the Transactions of the Royal Society of Tropical Medicine and Hygiene in April 1930.

A paper was read by the Assistant Government Bacteriologist on "Pellagra in relation to the food supply" at the Conference of the Far Eastern Medical Association at Bangkok, in December 1930.

The Assistant Government Bacteriologist is at present conducting an investigation into the congenital heart conditions found in Chinese infants at the Victoria Mortuary.

The question of Calf Lymph dilution was worked out during the year on Buffalo Calves. The lymph prepared in the Institute was found to be highly efficient in the following dilutions 1 in 5 with glycerine and normal saline (ordinary strength issued) and also in further dilutions with normal saline of 1 in 10, 1 in 25, up to 1 in 50. Unfortunately it was not possible to carry out further tests on newly born Chinese infants.

A comparison of the Precipitation test for Syphilis used in the Institute, with the Wassermann and Kahn tests was started, but had to be abandoned as regards the Kahn test, owing to pressure of routine work. It is hoped to carry out this investigation later, when the new officer for Venereal Diseases takes up his duties.

PREPARATION OF CALF LYMPH.

The supply of Buffalo calves was much improved this year. The number of calves vaccinated during the year was 218, an increase of 101 over last year.

The average yield per calf, of the finished product, glycerinated lymph, was about 90 c.c. per calf.

The quantity of lymph issued during the year was 10,886.8c.c. made up as follows:—

Quantity of lymph issued free 8,940.8c.c.

Quantity of lymph issued and paid for... 1,946.0c.c.

The value of the free issues was \$18,867.40.

The quantity of lymph in stock at the end of the year was 18,678.6 c.c. estimated to be sufficient to vaccinate 560,358 persons.

The Institute was able to meet the demands from the Naval and Military forces during the year.

VACCINE DEPARTMENT.

The Institute now supplies all the Venereal Diseases Clinics using Anti Gonococcus Vaccine free of cost, this is estimated to be a saving this year to the Government of \$6,050.00 as this material had previously to be purchased from outside sources.

No demand was made for Cholera Vaccine this year and very few doses of Plague Vaccine were issued.

The following stock vaccines were issued during the year under review.

Vaccine.	ISSUES.			Value of free issue.
	Free	paid for	Total	
Gonococcus Vaccine...	2,420 cc.	10 cc.	2,430 cc.	\$ 6,050.00
Staphylococcus Vaccine	90 cc.	20 cc.	110 cc.	45.00
Anti Meningococcus Vaccine .....	...	86 cc.	86 cc.	...
Plague Vaccine .....	...	30 cc.	30 cc.	...
T. A. B. Vaccine.....	12 doses.	...	12 doses.	6.00

Special Autogenous vaccines were prepared for 20 cases, of these 11 were for Government Institutes, the remaining 9 were for private Medical Practitioners.

SERUM DEPARTMENT.

During the year 8,800 c.c. of Anti-meningococcus serum was issued as follows:—

Quantity issued free	100 c.c.
Quantity issued and paid for	8,700 ,,
Total	8,800 ,,

The issue of serum for this year shows an increased output of 3,820 c.c. over last year.

The quantity of Anti-meningococcus serum in stock at the end of the year was 59,905 c.c.

ANTI RABIES TREATMENT.

No new strain of virus has been isolated and fixed during the year, no suitable material being available. During the year 77 persons received Pasteur treatment, exactly the same number as were treated in 1929, when only 30 persons completed the course of treatment. More than half the persons applying, failed to complete the course of treatment as shown on the following Table.

Race incidence of cases.	Treatment completed.	Treatment not completed.
British	6	10
Chinese	21	31
American	1	...
Danish .....	...	1
Polish .....	...	1
Portuguese	2	3
Indian .....	...	1
Total	30	47

Hempts classification of wounds has been introduced this year in order to estimate the doses required.

The value of the free issue was \$1,248.00.

Two dogs were treated, one in Hong Kong and one in Canton, with a preventive vaccine prepared in the Institute.

Examinations of dogs' brains for negri bodies were as follows:—

Negri bodies present	2
Negative	5
Total	7

BACTERIOLOGICAL EXAMINATION OF WATER SUPPLIES.

The number of samples of water examined during the year was 1,742, a decrease of 49 on last year's figures; this is accounted for by the absence of the public tanks used during the drought.

The following Table gives the sources from which the samples were obtained:—

Unfiltered raw water from filter beds	123	samples.
Water after filtration from filter beds	131	,,
Tap water samples in Victoria & Kowloon	1267	,,
Well waters	39	,,
Water from other than public supplies ...	182	,,
<hr/>		
Total	1742	,,
<hr/>		

The private water supplies of the Dairy Farm were examined regularly as in former years, the results being forwarded to the Honourable Director of Medical and Sanitary Services.

The public water supplies of Victoria and Kowloon continued to maintain a high standard of purity.

Domestic filter candles were examined and sterilized regularly for various Government and other institutions, the total number dealt with being 378, an increase of 26 over last year.

BACTERIOLOGICAL ANALYSIS OF MILK.

Samples of both fresh and Pasteurized milk were examined regularly during the year for the information of the Public Health Authority.

The number of samples examined being 207, an increase of 17 over last year.

The specimens were from public supplies and from the Tung Wah Hospital.

EXAMINATION OF DISINFECTANTS.

Two samples of disinfectants were examined by the Rideal Walker test, at the request of the Medical Officer of Health.

MEDICO-LEGAL WORK.

Thirty three articles were examined for Medico-legal purposes during the year at the request of the Criminal Investigation Department.

ANTI-PLAQUE WORK.

No cases of plague occurred during the year.

518 smears from rat spleens were examined from the Medical Officer in Charge of Victoria Mortuary, who carries out the daily inspection of rats. No cases occurred in which *B. Pestis* could be identified.

Local rodents examined were as last year.

Rattus Norvegicus.

Rattus Rattus.

Mus Musculus.

The number of fleas examined and identified during the year was 1,842 obtained from 281 rats caught alive.

The cheopis index was 6.33, an increase of 1.61 over last year.

The species identified were as follows:—

IDENTIFICATION OF FLEAS.

Rats caught.	FLEAS.			Cheopis Index.
	X. Cheopis	Ctenocephalus	Ctenopsylla	
281	1,780	11	51	6.33

CLINICAL AND BACTERIOLOGICAL EXAMINATIONS.

The total number of examinations carried out was 10,221, being an increase of 809 over last year. Details are shown in appendix A.

EXAMINATION OF BLOOD SERA FOR SYPHILIS.

This section of the work of the Institute continues to rapidly increase, a total of 2,453 examinations were carried out during the year, an increase of 712 examinations over 1929.

The following Table shows the results obtained together with the race and sex incidence of persons affected.

EXAMINATION OF BLOOD SERA FOR SYPHILIS.

	EUROPEAN.		INDIAN.		CHINESE.		Total.
	M.	F.	M.	F.	M.	F.	
Strong positive..	30	3	26	...	498	241	798
Positive	4	2	9	...	89	43	147
Weak positive...	4	1	2	...	27	13	47
Doubtful	8	2	11	...	75	37	133
Negative	162	28	114	...	590	434	1,328
Grand total...	208	36	162	...	1,279	768	2,453

The following shows the results of comparative examinations of sera by both the Wassermann and Precipitation test for Syphilis used in the Institute.

COMPARISON OF WASSERMANN & PRECIPITATION TEST.

No. of Tests	BOTH AGREE.					DISAGREE.		
	Positive	Doubt-ful	Neg-ative	Total	Per-centage	Partial	Total	Per-centage
507	134	8	330	472	93	25	10	7

The majority of the specimens received for examination were from the Venereal Diseases Clinics of the Government Civil Hospital, Kowloon Hospital, Tung Wah Hospital, Tung Wah Eastern Hospital, Tsan Yuk Hospital, Kwong Wah Hospital, Nethersole Hospital and Victoria and Lai Chi Kok Gaol Hospitals. The remainder were investigations carried out at the request of private Medical Practitioners.

AGGLUTINATION TESTS.

This department of the Institute is still increasing owing to the adoption by Chinese Hospitals of modern Western methods of diagnosis. The total number of agglutinations carried out was 2,276.

The following Table shows the routine test applied and race incidence.

AGGLUTINATION TESTS.

ORGANISMS.	EUROPEAN.		INDIAN.		CHINESE.		Total.
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	
B. Typhosus ...	47	118	5	16	186	381	753
B. Para. A.	1	164	...	21	1	566	753
B. Para. B.	1	164	...	21	4	563	753
B. Para. C. ....	...	4	...	...	...	1	5
B. Dysenteriae..	...	...	...	...	...	1	1
B. Meletensis ...	...	1	...	...	...	3	4
B. Abortus ....	...	1	...	...	...	3	4
Weil Felix	1	2	...	...	...	...	3
Grand Total ...	50	454	5	58	191	1,518	2,276

Malaria.—During the year the following Medical Officers were assisted in the examination of blood films, the Medical Officer of Health, the Medical Officer of Schools and the Medical Officers in Charge of Victoria and Lai Chi Kok Gaols; also the Government Malariaologist was assisted in a special survey at Repulse Bay. Both thin film and Ross's thick film methods were employed.

EXAMINATION OF BLOOD FILMS FOR MALARIA.

PARASITES.	EUROPEAN.	INDIAN.	CHINESE.	TOTAL.
Malignant Tertian.	2	1	28	31
Benign Tertian ...	14	2	50	66
Quartan	1	...	...	1
Unclassified	1	4	17	22
Negative	51	13	237	301
Grand Total	69	20	332	421

Tuberculosis.—The number of specimens examined for B. Tuberculosis shows a falling off from last year. No doubt owing to the increasing number of Medical Officers and Private Practitioners who do their own clinical pathology specimens.

BACTERIOLOGICAL EXAMINATIONS OF MATERIAL FOR B. TUBERCULOSIS

SPECIMEN.	EUROPEAN.		INDIAN.		CHINESE.		Total.
	Pos.	Neg.	Pos.	Neg.	Pos.	Neg.	
Sputum	17	35	5	16	36	48	157
Urine .....	...	6	...	1	...	5	12
Cerebro-spinal Fluid .....	...	...	...	...	...	2	2
Faeces	1	1	...	...	1	2	5
Pus .....	...	...	...	2	...	1	3
Miscellaneous ...	...	1	...	4	...	4	9
Grand Total ...	18	43	5	23	37	62	188

Diphtheria.—The number of throat swabs examined for B. Diphtheria was approximately the same as last year when 435 specimens were examined.

THROAT SWABS EXAMINED FOR DIPHTHERIA.

	EUROPEAN.	INDIAN.	CHINESE.	Total.
Positive	50	4	35	89
Negative	222	12	100	334
Grand Total	272	16	135	423

Morbid Histology.—During the year 242 sections were prepared for diagnosis, an increase of 179 over last year.

The following Tables give the particulars and diagnosis made.

MALIGNANT TUMOURS.

Nation- ality.	Sex	Age	Site of tumour.	Diagnosis.
European	M	50	Gland	Carcinoma.
Chinese	F	43	Breast	Columnar cell carcinoma.
"	F	67	Breast	Encephaloid carcinoma.
"	M	64	Gland-Liver	Carcinoma.
"	M	46	Penis	Sarcoma.
"	F	54	Breast	Carcinoma.
"	F	49	Gland	Carcinoma.
Indian	F	43	Breast	Adeno carcinoma.
Chinese	F	46	Site unknown	Sarcoma.

BENIGN TUMOURS.

Nation- ality.	Sex.	Age.	Site of tumour.	Diagnosis.
European	F.	39	Breast	Fibro adenoma.
"	F.	28	Ovary	Papilloma.
"	F.	...	Breast	Fibro adenoma.
"	M.	40	Finger	Epidermal cyst.
"	F.	...	Breast	Fibro adenoma.
"	F.	35	Ovary	Colloid cyst.
"	F.	26	Thyroid	do.
"	F.	50	Cervix	Inflammatory.
Chinese	F.	17	Breast	Fibro adenoma.
"	M.	67	Elbow	Fibroma.
"	F.	26	Breast	Fibro adenoma.
"	M.	57	Nasal cavity	Fibroma.
"	F.	10	Calf	Cavernous haemangioma.
"	F.	45	Tongue	Non-malignant papilloma.
"	M.	35	Neck	Colloid goitre.
"	F.	40	Breast	Cystic adenoma.
"	M.	50	Nose	Nasal polypus.
"	M.	40	Rectum	Papilloma.
"	F.	58	Nose	Mucous polypus.
"	F.	17	Breast	Fibro adenoma.
"	F.	25	"	do.
"	M.	26	Palate	Haemangioma.
Indian	M.	30	Meninges	Gumma of meninges.
European	M.	32	Site unknown	Broken down ulcer.
"	M.	25	"	Gumma.
"	M.	18	"	Capillary angioma.
"	F.	40	"	Soft fibroma.
Chinese	F.	55	"	Fibroma.

Tissue Sections for Post-Mortem Diagnosis.—During the year 205 sections were prepared and examined for the Officer in Charge of Victoria Mortuary for diagnosis.

APPENDIX A.

ANALYSIS OF CLINICAL AND OTHER EXAMINATIONS.

Nature of Examination.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total for 1930.	Total for 1929.
Widal.	40	28	37	50	86	77	77	83	93	73	50	59	753	792
	40	28	37	50	86	77	77	83	93	73	50	59	753	792
	40	28	37	50	86	77	77	83	93	73	50	59	753	792
	...	...	1	1	...	...	3	...	...	...	...	5	5	...
Wassermann Reaction,	183	173	182	211	198	185	217	210	205	286	208	195	2,453	1,741
Cultivation for	31	6	9	19	9	24	125	15	19	54	31	79	421	794
	...	...	...	...	...	...	...	...	...	1	...	...	1	...
	...	1	1	...	1	...	...	1	...	3	...	1	8	36
	51	38	38	45	23	13	23	28	32	27	37	68	423	435
Faeces or stool for	3	...	10	...	4	2	...	...	...	...	...	2	21	28
	...	1	...	4	9	6	...	7	2	2	9	6	46	53
	4	7	5	9	11	28	32	14	7	11	10	2	140	240
	2	3	1	5	10	7	2	3	2	7	10	9	61	128
Miscellaneous examinations.	2	1	...	...	...	...	...	...	...	...	...	...	3	6
	...	1	1	1	...	...	1	...	...	1	...	...	5	10
	7	11	11	14	31	35	20	31	20	11	25	26	242	63
	10	10	5	21	13	9	11	14	15	14	13	22	157	285
Blood, gland &c., for B.	...	2	1	...	...	3	...	1	1	...	1	...	9	17
	3	10	5	2	4	5	11	5	7	9	10	4	75	113
	14	19	24	7	16	14	15	10	23	38	22	22	224	151
	1	5	3	3	2	1	2	..	2	4	2	2	27	37
Animals for Rabies,	...	...	...	...	...	...	...	...	...	...	...	...	7	14
	...	...	1	...	...	2	...	...	...	1	3	...	...	...
	...	...	...	...	...	...	...	...	...	...	...	...	...	6
	8	3	...	...	4	...	1	3	...	8	...	6	33	33
Weil Felix Reaction for Typhus fever,	1	...	...	...	...	...	1	...	...	...	...	1	3	1
Agglutination Reaction for Typhus fever	...	...	...	...	1	...	...	...	...	...	...	...	1	13
Agglutination Reaction for B. Meletensis	...	1	1	...	...	...	1	...	...	1	...	...	4	...
Agglutination Reaction for B. abortus	...	1	1	...	...	...	1	...	...	1	...	...	4	...
Bacteriological Examination of Milk,	20	20	20	25	20	20	25	21	10	8	8	10	207	190
Bacteriological Analysis of Water,	142	135	152	132	157	140	159	147	159	151	146	122	1,742	1,791
Rideal Walker's Estimation of Disinfectants	...	...	...	...	...	1	...	...	...	1	...	...	2	2
Autogenous Vaccine prepared,	2	...	1	4	3	4	1	...	...	...	2	3	20	15
Freshly prepared vaccine tested for sterility,	11	15	22	16	16	16	20	2	9	23	16	19	185	219
Filter candles sterilized for domestic filters,	29	29	40	25	36	29	35	28	40	30	29	28	378	352
Identification of Rat Fleas	16	9	34	31	42	23	24	20	9	18	15	11	252	76
Miscellaneous,	10	15	21	30	17	28	39	28	16	23	26	32	285	172
Total,	670	600	701	755	885	826	1,063	927	947	1,045	860	942	10,221	9,412

APPENDIX B.

ANNUAL REPORT OF THE WORK OF THE MALARIA BUREAU FOR THE YEAR 1930.

BY R. B. JACKSON, M.D., D.P.H., MALARIOLOGIST.

STAFF.

Mr. Deb and I arrived in the Colony on transfer from the Federated Malay States on April 24th.

Through the kind co-operation of the Government Bacteriologist, Dr. Minett, half the upper storey of the Bacteriological Institute was occupied as a Malaria Bureau.

In May a clerk was detailed for work at the Bureau and in November four Chinese joined as probationer inspectors. At the end of the year the staff consisted of the Malariaologist, the Assistant to the Malariaologist, one clerk, four probationer inspectors and two coolies.

The scope of activities of the Bureau includes:—

1. A general mosquito survey of the Colony and New Territories to determine what species exist and the life history of each.
2. A general survey of malaria.
3. Dissection of mosquitoes with a view to ascertaining their relation to the spread of disease.
4. Special anopheline surveys in malarious districts to determine the breeding places of those species which carry malaria with a view to their eradication.
5. Local mosquito surveys with a view to abatement of mosquito nuisances.
6. The teaching of mosquito-logy.
7. Co-operation with Government Departments, the Military, Naval and Air Forces, public companies and private individuals in the investigation and eradication of Malaria.

SPECIES INVESTIGATION.

ANOPHELINES.—Since August a record has been kept of the Anopheline larvae examined microscopically each month and of the imagines hatched out. As will be seen from attached figures, *A. maculatus* is most frequently met with, then *A. minimus* and next *A. hyrcanus*. Previous to September so very few larvae of *A. minimus* had been encountered that no adults had been hatched out, the only two specimens obtained had been captured in Capt. Moir's House, Castle Peak Road on 4. 6. 30. Larvae of *A. aitkeni* were found in April and at various times since from the same pool. This species so far as I am aware has not yet been included in the list of Hong Kong Anophelines. Larvae of *A. jeyporensis* have been met with both in the Island and in the New Territory. One specimen of *A. vagus* larva has been found. From Cheung Chau Island, a larva with clypeal hairs resembling *A. umbrosus* but which had palmate tufts, was obtained, also two larvae which resembled *A. punctulata*. Unfortunately these specimens were damaged after being mounted and before they could be examined at leisure. Several larvae have been found which closely resemble but which have not got the well developed dorsal plates of *A. minimus*. No adults have yet been obtained from these.

Larvae of *A. maculatus* have been found in concrete tanks near Tung Wah Eastern Hospital in the Botanical and Forest Department Gardens, in a wooden tub, in earthen jars, and on several occasions in masonry drains where accumulation of water had collected owing to the drain being obstructed by debris, in some cases the water came from seepages, in one instance it came from a house drain but had filtered through some earth and sand which had been washed into the drain. Close to the Peak Garage, these larvae were found in holes which have been left in the concrete facing of the embankment for the purpose of planting trees. Culicine larvae were found in the same holes, decaying vegetable matter was present in the water. The adults hatched out from these larvae were *C. fatigans* and *C. virgatipes*. Larvae of *A. maculatus* have also been found along with larvae of *A. aitkeni*.

Larvae of *A. minimus* were found in association with *A. maculatus* in a small concrete tank behind an unoccupied house at Taipo.

CULICINES.—Larvae of the following Culicines were collected:—

Aedes albopictus, *A. togoi*, *A. japonicus*, *A. macfarlanei*, *A. argenteus*, *Culex fatigans*, *C. vishnui*, *C. bitaeniorhynchus*, *C. sitiens* and *C. mimeticus*; *Armigeres obturbans*; *Megarhinus splendens*; and two species of *Lutzia*. Very few adult specimens of *Aedes aegypti* (*Stegomyia fasciata*) were obtained

either by catching or by hatching out larvae, but those of *Aedes albopictus*, (*Stegomyia scutellaris*) could be obtained without difficulty. In the Philippines, *Aedes albopictus* has been experimentally infected with dengue fever. The larvae of Three *Aedes*—*togo*, *macfarlanei* and *japonicus* possess mouth rakes as well as mouth brushes but whether they are cannibal larvae or not I have not yet been able to ascertain. *Aedes togoi* has been found in pools in the rocks close to the sea, the other two some distance back from the sea. The principal biting pest is *C. fatigans* which has been found to carry filarial infection in many parts of the Tropics.

Culicine mosquitoes sent for identification were mainly *C. fatigans*, *Armigeres obturbans*, *Aedes albopictus*.

Mosquito Nuisance Investigation.

Complaints as to mosquito nuisances were received regarding Kowloon Hospital, Major Campell's quarters, Lugard Road, Police Stations in the New Territories, Lyemun Barracks, Mount Austin Barracks, Pokfulum residences, Cheung Chow Police Station, the neighbourhood of the War Memorial Hospital site at the Peak, and the residence of His Excellency the General Officer Commanding who also complained of a pest of sand flies. Visits were paid to these localities, larval surveys done and recommendations made for abatement of nuisances.

MALARIA INVESTIGATIONS.

Investigations regarding the incidence of Malaria and recommendations bearing on these have been made at the following places during the year:—Capt. Moir's house, Castle Peak Road, New Territories. Taikoo Dockyard, Lyemun Barracks, St. Stephen's College, Stanley Peninsula, Repulse Bay Hotel. Larval surveys have been made at Taipo, Tung Wah Eastern Hospital, Sun Wai Military Camp and around No. 180 the Peak and it is hoped to have these completed at an early date when some further details have been gone into.

Anopheline mosquitoes caught at Lyemun Barracks, Capt. Moir's house and St. Stephen's College Stanley, were identified as follows:—*A. maculatus* 16, *A. hyrcanus* 82, *A. minimus* 18, most of these were dead on arrival. However, two *A. maculatus* and ten *A. hyrcanus* from Stanley were dissected but no infection was found.

In order to obtain information as to infection rates amongst the various Anopheline species, times of feeding, species frequenting houses etc., it will be necessary to train some of the staff to undertake this work.

SPLEEN RATES.

At Taikoo Dockyard School, 115 Chinese children attending the school were examined, 2 had enlarged spleens, 93 children of the Sugar Refinery Village were examined, 2 had enlarged spleens, 104 children living in the squatter area on the hill side behind the houses occupied by the Dockyard workers were examined, 3 had enlarged spleens. Spleen rate for the neighbourhood was 2.2%. At Shaukiwan in the vicinity of Lyemun Barracks, 79 children from Man Ling, Cheong Shui Wing, Lam Cheng Hing, Tung Wah Hospital Charity Schools were examined, 2 had enlarged spleens. Spleen rate 2.5%. At Stanley Peninsula, 65 children were examined, no enlarged spleens were encountered. Total number of children examined on the Island was 456, 9 had enlarged spleens. Spleen rate 1.97%. In all these localities, there were numerous breeding places of Anophelines mainly *A. maculatus*. In the New Territory, 33 children from the villages of San Uk Tsuen, San Wai, Sui Hang Tsuen, near Sun Wai Military Camp, were examined, 9 had enlarged spleens. Spleen rate 27%. At Yok Chai Village on Castle Peak Road, 10 out of 14 examined had enlarged spleens, a rate of 71%. At Government English School, Taipo Market, 22 children were examined, 3 had enlarged spleens, at Sheung Tah School, Taipo Market, 24 children were examined, 2 had enlarged spleens. Total for Taipo Market, 5 enlarged spleens out of 46 examined, spleen rate 10.8%. Total number of children examined in New Territory, 93, number of enlarged spleens 24, spleen rate 25.8%.

PARASITE RATES.

In the Repulse Bay Area, the smears of the blood of 147 Chinese servants were examined, Malarial parasites were found in 33, an infection rate of 22.5%. Out of 186 servants only 4 used mosquito nets. These people were discharging their routine duties. Numerous breeding places of Anopheline mosquitoes were close by. Further investigations are required regarding infection rates, if feasible they should be combined with spleen rates in the schools.

MALARIA STATISTICS.

Statistics obtained from the M.O.H. indicate that in 1930, 515 deaths were ascribed to Malaria in the Colony, these being 3.16% of the total deaths. The death rate per mille from Malaria is given as 0.47.

In Table 1, figures are given concerning hospital admissions to the following hospitals:—Government Civil, Kowloon, Victoria, Peak, Victoria Gaol, Lai Chi Kok Gaol, Tung Wah, Tung Wah Eastern, Kwong Wah, Matilda and Alice Memorial.

In Table II, statistics of cases treated at the following Dispensaries are shown:—Taipo, Un Long, Western Public, Kowloon City, Sham Shui Po, Shaukiwan, Aberdeen, Central, Eastern, Harbour and Yaumati, Hung Hom.

Table III deals with hospital admissions due to Malaria of Government servants in the Colony.

Table IV, is a similar table for the Police (including Water Police), some stations appear to have had no admissions for Malaria during the year, namely—Pokfulum, Wong Nei Chong, Tai Tam, Tai O, Lok Ma Chau, Ping Shan, Sha Tin, Tai Po, Tai Ku Ling and Lin Ma Hang.

Figures supplied by Major Harris M.C., R.A.M.C., regarding the incidence of Malaria amongst the troops British and Indian are as follows (relapses not being taken into account):—British Troops, number of cases of Malaria contracted during the year 77, of which 9 were in 1st Quarter, 4 in 2nd Quarter, 29 in 3rd Quarter, 35 in 4th Quarter. Calculated on an average strength of 2230, the Malaria admissions for fresh infections were 34.52 per 1,000. Lyemun contributed largely, the average strength being 122 out of which there were 34 admissions (fresh cases), 32 of which were in the 2nd half of the year whereas Stonecutter's Island with an average military strength of 168 did not have a single case of Malaria returned as contracted there. *A. hyrcanus*, I understand, is the only Anopheline found on the Island so far, it is proposed to make investigations in the future with the co-operation of the Military Authorities (promised by Major Harris) as these may throw some light on the pathogenicity and range of flight of *A. hyrcanus*.

There were 42 fresh cases of fever amongst the Indian troops of which 7 were in 1st Quarter, 14 in 2nd, 28 in 3rd, 25 in 4th. These work out as 31.5 per 1,000 on the average strength of 1,365.

TABLE SHOWING ANOPHELINE LARVAE EXAMINED
MICROSCOPICALLY.

Month.	LARVAE.					
	<i>A.</i> macul- atus.	<i>A.</i> sin- enses	<i>A.</i> min- imus	<i>A.</i> kar- wari	<i>A</i> aitkeni	<i>A.</i> jeypor- iensis
August	236	...	2	78	...	...
September .	223	2	123	14	...	...
October	1,405	137	126	1	...	31
November ...	750	259	751	...	...	107
December ...	1,934	60	214	2	4	...
Total.....	4,548	458	1,216	95	4	138

Month.	ADULTS HATCHED OUT.					
	<i>A. maeul- atus.</i>	<i>A. sinen- ses.</i>	<i>A. min- imus.</i>	<i>A. kar- wari.</i>	<i>A. aitkeni</i>	<i>A. jeypor- iensis.</i>
August	16	...	...	16	...	...
September ..	16	5	23	2	...	...
October	50	5	6	...	...	6
November ...	84	14	36	...	...	6
December ...	121	...	1	...	3	...
Total.....	287	24	66	18	3	12

Table I.

HOSPITAL ADMISSIONS.

1930.

Government Civil, Kowloon, Victoria, Peak, Victoria Gaol, Lai Chi Kok, Tung Wah, Tung Wah Eastern, Kwong Wah, Matilda and Alice Memorial:

	<i>All causes.</i>	<i>Malaria.</i>	<i>Percentage of Malaria.</i>
Europeans	1,961	111	5.7
Chinese	18,146	1,779	9.8
Indians	1,068	196	18.4
Others	159	4	2.5
Total	21,334	2,090	6.9

Malaria Admissions.

1st Quarter	232	Benign Tertian	622
2nd Quarter	419	Sub-Tertian	241
3rd Quarter	664	Quartan	30
4th Quarter	775	Clinically diagnosed	1,197
Total	2,090		2,090

Table II.

DISPENSARY CASES TREATED.

1930.

Tai Po, Un Long, Western Public, Kowloon City, Sham Shui Po, Shaukiwan, Aberdeen, Central, Eastern, Harbour and Yaumati, Hung Hom.

<i>Total cases treated.</i>	<i>Malaria.</i>	<i>Percentage of Malaria.</i>	
138,286	9,300	6.7	
<i>Malaria Cases Treated.</i>			
1st Quarter	3,164	Benign Tertian	142
2nd Quarter	1,186	Sub-Tertian	13
3rd Quarter	2,070	Quartan	0
4th Quarter	2,880	Clinically diagnosed	9,145
Total	9,300		9,300

Table III.

GOVERNMENT EMPLOYEES (excluding coolies).

Malaria Admissions 1930.

	<i>Malarial Admissions.</i>	<i>Malarial admissions per 1,000.</i>
Europeans	862	49
Chinese	3,203	115
Indians	1,021	167
Others,	66	0
Total	5,152	331

Malaria Admissions.

1st Quarter	39	Benign Tertian	245
2nd Quarter	79	Sub-Tertian	45
3rd Quarter	100	Quartan	0
4th Quarter	113	Clinically diagnosed	41
Total	331		331

Table IV.

POLICE ESTABLISHMENT (including Water Police).

Malaria Admissions 1930.

<i>Establishment.</i>	<i>Malarial Admissions.</i>	<i>Malarial Admissions per 1,000.</i>
Europeans	202	19
Indians	713	123
Chinese	906	68
<hr/>	<hr/>	<hr/>
Total	1,821	210
<hr/>	<hr/>	<hr/>

Malaria Admissions.

1st Quarter	30	Benign Tertian	161
2nd Quarter	52	Sub-Tertian,.....	27
3rd Quarter	60	Quartan	—
4th Quarter	68	Clinically diagnosed	22
<hr/>	<hr/>	<hr/>	<hr/>
Total	210		210
<hr/>	<hr/>	<hr/>	<hr/>

APPENDIX C.

ANALYST'S DEPARTMENT.

Report on the work of the Government Laboratory during the year 1930.

By Mr. E. R. Dovey, A.R.C.Sc., F.I.C., F.C.S.,
Government Analyst.

The number of analyses performed during the year was 2,888 as against 3,710 in 1929. The increased number of samples in 1929 was entirely due to the very large number of water samples examined that year during the period of water shortage.

The following classification shows the nature of the work done:—

CHEMICO-LEGAL EXAMINATIONS.

	1930	1929
Toxicological Investigations (including 36 stomachs)	72	50
Articles for stains	8	1
Bombs and explosives	9	0
Coins and coining material	7	7
Counterfeit banknotes	1	0
Material from fire enquiries	7	3
Documents	2	0
Papers for secret writing	9	0
Residues	5	0
Powders	15	6
Food	2	2
Water	2	0
Clotted blood	1	0
Liquids	8	8
Vomit	0	4
Medicines	0	12
Narcotic drugs	3	0
Carbolic acid	0	2
Other acids	5	0
Cigarette end	1	0
Sand	1	0
Spirit	0	1
Herbs	0	2
Tape	0	2
Other examinations	37	1

Dangerous Goods

Fuel Oil	31	16
Kerosene	5	14
Petrol	6	5
Ships for inflammable vapour	73	70

Food and Drugs.

	1930	1929
Lard	74	41
Cheese	15	13
Flour	38	36
Brandy	2	0
Sugar	34	36
Whisky	2	0
Molasses	8	5
Milk—Fresh	56	62
Butter—Fresh	28	21
Butter—Tinned	6	8
Oyster sauce	1	0
Jam	14	0
Treacle	14	0
Lemon Essence	1	0
Orange Essence	1	0
Bread	22	27
Rice	4	0
Ghee	2	2
Mustard	2	0
Tea	21	27
Cocoa	28	0
Cream	28	0
Sardines	7	0
Brown bread	2	0
Other fish	1	0

Biochemical Examinations.

Blood, for presence of seawater ...	1	0
„ „ Carbon monoxide ...	2	0
„ „ chlorides	2	0
„ „ sugar	23	0
„ „ urea nitrogen	17	0
Ascitic fluid	37	0
Urine	15	3
Human milk	2	0

Waters.

Public supplies	1,484	2,269
Distilled water	1	2
Well water	4	90
Sea water	49	0
Spring water	1	0
Other waters	3	0
Sewage effluents	15	13

Building Materials.

Cement	5	2
Lime	1	9
Sand	3	1

Oils.

	1930	1929
Anise oil	11	12
Cassia Oil	17	31
Wood oil	40	100
Peanut oil	2	0
Lubricating oil	2	5
Castor oil	8	0
Roller oil	1	0
Vaseline	3	0
Other oils	1	0

Pharmacy Ordinance.

Chinese medicines	5	1
Atropine solution	1	0
Worm cones	5	0
Tincture of opium	1	0

Chemicals.

Sulphuric acid	11	19
Potassium nitrate	2	0
Brom-cresol-purple	1	0
Brom-thymol-blue	1	0
Magnesium sulphate	1	0
Ferric chloride	1	0
Ammonium carbonate	2	0
Copper sulphate	1	0
Silver nitrate	4	0
Glycerine	7	0
Aluminium sulphate	3	0
Ammonium sulphide	1	0
Calcium hypochlorite	1	0
Reagents	1	0

Minerals and Metals.

Metals	118	178
Ores	82	119
Minerals	5	5
Coal	132	99
Clinker	1	1
Tin slag	1	0
Shale	2	0
Coke	1	0
Coal ash	2	0
Jade	7	0
Ore dust	1	0

Miscellaneous.

Deposit	4	0
Guano	15	4
Soil	2	0
Fertilizer	2	0
Tar	1	0
Book paint	3	1
Leather	2	0
Stage lashing	1	0
Wrapping	1	0
Coal tar disinfectants	4	5
Wireless valves	3	0
Sediment	1	1
Clip	1	0
Insulating board	1	0

TOXICOLOGICAL EXAMINATIONS.

Among the investigations made during the year were 42 into cases of human poisoning or suspected human poisoning. The following table shows the results:—

<i>Poison</i>	<i>Number of cases.</i>
No poison found	16 cases
Opium found	11 ,,
Arsenic found	2 ,,
Morphine found	1 ,,
Hydrochloric acid found.....	1 ,,
Bandolin wood found	1 ,,
Unidentified alkaloids found	2 ,,
Potassium cyanide found	1 ,,
Iron and lead found	1 ,,
Lysol found	1 ,,
Other poisons	5 ,,
<hr/>	
<i>Total</i>	<i>42</i> ,,
<hr/>	

One of the cases investigated concerned the death of a coolie who had eaten a piece of bread and butter which had been treated with arsenic for the purpose of destroying rats. Arsenic was found in all parts of the body, and no less than 20.5 grains was separated from the contents of the stomach alone.

Another case concerned a jeweller's assistant who was taken suddenly ill and died on the way to hospital. All the organs were found to be congested and analysis revealed the presence of a considerable amount of potassium cyanide in the contents of the stomach. Police investigations made later revealed evidence of self-administration.

In March, a Chinese woman put poison in a wine bottle used by her mother-in-law. The latter on drinking the liquid found it bitter and reported the matter to the Police. Lysol was found in the liquid.

DANGEROUS GOODS.

The Clowes-Redwood apparatus for the detection of inflammable vapour has been used on 73 ships during the year.

A considerable number of samples of fuel oil have been examined for the Naval Authorities, the determinations required including viscosity @ 32°, 40°, 60°, and 100°F, sulphur content, water content, flash point, ash, hard asphalt content, suspended water and Specific Gravity.

A number of samples have been submitted by the Police Department in connection with fire-crackers and fire-cracker factories. These have included complete crackers, mixed explosives, and ingredients for explosives. In many cases illegal ingredients were found.

FOOD AND DRUGS ORDINANCE.

The following table gives the results of 298 samples of articles of food submitted by the Sanitary Department:—

Substance.	Number Examined	Number found Genuine	Number found adulterated
Butter—Fresh	28	27	1
Butter—Tinned	6	6	0
Bread	22	22	0
Cocoa	28	28	0
Cheese	15	15	0
Cream	28	27	1
Flour	35	33	2
Jam	14	13	1
Lard	1	1	0
Milk—Fresh	52	50	2
Sugar	34	33	1
Tea	21	18	3
Treacle	14	14	0
Total	298	287	11

MINERALS AND METALS.

The 296 samples of metals and minerals examined during the year comprised the following:—

<i>Metals</i>	1930	1929	<i>Minerals.</i>	1930	1929
Tin	109	174	Wolfram.....	59	94
Antimony	2	4	Manganese	3	6
Gold	1	0	Bismuth.....	1	13
Aluminium	4	0	Antimony	1	5
Silver	1	0	Molybdenite	2	1
Iron	1	0	Tin	2	0
			Graphite	1	0
			Other ores	13	0
<i>Total</i>	118	178	<i>Total</i>	82	119

The adverse conditions prevailing in the commerce of the Colony during the year accounted for the decreased number of analyses of metals and minerals which the Laboratory was called upon to make.

WATER SUPPLIES.

240 samples of water were taken during the year at the various filter installations. Of these half were filtered and half were from unfiltered water. In addition to these, 1,244 samples were taken from taps in all parts of Hong Kong and Kowloon as a control on the water actually reaching the consumers. The samples from the filter beds were given a complete examination, whilst in the case of the tap samples, the free ammonia, free chlorine, the electrical conductivity and the hydrogen ion concentration were determined. Such an examination is designed to indicate merely whether any change has occurred since the water left the filter bed.

The great majority of samples of the raw unfiltered water in Hong Kong are acid, and give a hydrogen ion concentration value pH=6.5 to 6.8. Most of the filtered water is also slightly acid showing a value usually of pH=6.6—6.8.

As regards physical properties, colour and transparency, the water from the Paterson filtration plants at Bowen Road and Shing Mun was excellent, only one of the 24 samples taken showed colour in excess of six Lovibond colour units in a 24 inch stratum, whilst values of from 2 to 3 colour units were usual readings. In all these samples also, except one, the water had the maximum value for transparency, + 100, in the case of the September sample from Bowen Road filter, the value fell to 90.

The following Table gives the least satisfactory figures for some of the principal determinations made on each of the various supplies during the year:—

Supply.	Colour.	Trans- parency.	Free Am- monia.	Alb. Am- monia.	Oxygen abs.	pH. Value.
	Lovibond units					Parts per 100,000
Aberdeen	90.8	18 cm	0.0022	0.0061	0.073	7.0
Elliot.....	35.7	55 cm	0.0011	0.0061	0.035	6.8
West Point...	5.7	100 cm	0.0011	0.0061	0.033	8.5
Albany	33.7	60 cm	0.0016	0.0055	0.026	6.8
Bowen Road...	11.4	90 cm	0.0028	0.0055	0.043	6.9
Eastern	35.5	52 cm	0.0055	0.0061	0.039	8.0
Shaukiwan	4.6	100 cm	0.0055	0.0110	0.041	6.8
Chai Wan.....	4.1	100 cm	0.0033	0.0050	0.060	7.2
Kowloon	4.1	100 cm	0.0011	0.0069	0.035	6.7
Shing Mun	5.2	100 cm	0.0011	0.0055	0.045	8.4

In connection with the control of the chlorination of the public supplies and to meet allegations of a chlorine taste remaining in the water, more than 1,200 samples from taps were taken during the year and the free chlorine determined. In only 31 per cent of these was any chlorine detected, and the highest concentration found in any sample was 0.6 part per million.

CRIMINAL WORK.

The electrical conductivity method has been used in connection with several suspected drowning cases during the year. In May a specimen of thoracic fluid from a body at the Kowloon Mortuary showed by this method the presence of 32 per cent of sea-water. In January the dead body of a man was found in a nullah and it was suspected that he might have been either gassed with coal gas or drowned. The conductivity test showed that the blood was normal and that no drowning had taken place and the absence of gassing was proved by the palladium chloride test, an analysis of the blood gases, and a spectrographic examination with the wave-length spectrograph. In another case of drowning at the Kowloon Mortuary, the differential chloride method was used and proved that the drowning had occurred in fresh water and not in sea-water.

In December a sample of suspected food in a case of attempted poisoning was found to contain $\frac{1}{4}$ oz. of caustic soda. The taste of the food had proved to be sufficiently unpleasant to deter anyone from partaking of it.

A number of articles were submitted by the Police in March in connection with a case of attempted arson in Yaumati. Traces of kerosene found on many of these substantiated the charge against the defendant. Seven samples of fluid found in a house in Wing Lok Street where arson was suspected, proved on analysis to be a mixture of kerosene and petrol.

Work was done during the year on several cases concerning forged bank-notes, in two of which Straits \$1 notes were involved. Microphotographs taken of the suspected and genuine notes, together with micrometric measurements, demonstrated that the former were counterfeit, and that at least two separate sets of plates had been used in the preparation of them.

In December a number of articles were submitted by the Police in connection with a charge of counterfeiting Hong Kong coins. Coin moulds, counterfeit coins together with various chemicals and pieces of metal were examined. The coins were composed of a tin-antimony alloy.

In two cases of corrosive fluid throwing, garments were submitted for the examination of stains. Hydrochloric acid was found in one case and a mixture of hydrochloric and nitric acids was found in the second. A jacket submitted in an alleged pepper-throwing case was examined. The dust from the front and sides of the garment when microscopically examined showed a considerable proportion of pepper.

A number of five cent receipt stamps were submitted in cases where it was alleged that attempts had been made to obliterate the cancellation. In several instances it was demonstrated that attempts to do this had been made.

RESEARCH WORK.

In connection with the application of electrical conductivity methods to the investigation of cases of drowning, conductivity measurements have been made on a large number of specimens of various bodily fluids. Amongst these were a considerable number of ascitic fluids, the work on which was done in collaboration with Prof. Gerrard of the Hong Kong University. Measurements of the total chloride in terms of sodium chloride, of the electrical conductivity in reciprocal megohms and of the total electrolytes calculated from the conductivity were carried out. In some instances this was supplemented by determinations of the blood sugar and blood urea nitrogen from the same cases.

Work has also been done on the application of direct colour photography to the recording of results of colour tests in toxicological investigations and to other laboratory colour tests. The results so far obtained indicate that this method will prove of very considerable value.

During the year the Police have submitted a number of documents on which invisible secret writing was suspected. Work was done on suitable methods of development and on modifications of existing methods for this work. The ultraviolet light method will be adopted for this work as soon as the necessary apparatus is obtainable.

Methods for the determination of alcohol in urine in cases of alleged drunkenness have been proposed in England and these have been tested out in the Laboratory. Special methods of determination are required in this work owing to the minute quantities of alcohol concerned.

The services of the Laboratory were requested in connection with the corrosion of condenser tubes in a local refrigeration plant. In this connection work was done on the corrosive action of the Hong Kong harbour water on iron and steel in addition to a micrographic examination of the corroded tubes.

Extensive investigations have been carried out on China wood oil. Conditions affecting results given by the proposed Bolton & Williams Heat Test have been investigated and a new procedure is being tested by means of which it is hoped that adulteration with foreign oils in as small a proportion as 1 per cent may be detected with certainty.

SAMPLING.

The following Table shows the amount of sampling carried out by the Government Sampler during the year:—

<i>Substances.</i>	<i>1930.</i>	<i>1929.</i>
Tin	2,439 tons.	4,119 tons.
Wolfram	149 „	364 „
Manganese ore	700 tons.	None.
Bismuth ore	None.	2,185 lbs.
Molybdenite	19 bags.	None.
Copper coins	None.	51 tons.
Lard	38,115 cases	16,145 cases
Wood oil	260 tons.	465 tons.
Paraffin wax	None.	407 bags.
Anise oil	None.	8,000 lbs.
Cassia Oil	5,920 lbs.	5,209 lbs.
Peanut oil	40 tons.	None.
Tea seed oil	None.	80 tons.
Glycerine	210 lbs.	None.
Portland cement ...	None.	770 lbs.

In addition to the above, the sampler took 1,302 samples of water.

MISCELLANEOUS SERVICES.

In May the Laboratory staff again carried out a treatment of the Colonial Secretary's Office records and Library with hydrocyanic acid gas. 30 grammes of gas per 1,000 cubic feet was supplied for 48 hours and according to reports received later the treatment was quite successful. Two similar treatments were applied to the records contained in the strong-room of one of the local Banks. These records were infested with white ants and in this case it was necessary to use three times the above concentration to effectively deal with the trouble.

The Laboratory was also called upon to investigate the cause of corrosion of some electrical wiring in the British Consulate at Swatow.

REVENUE.

The fees paid into the Treasury during the year amounted to \$19,891.50 as against \$24,974.00 in 1929. The value of the work done, Government and commercial, as determined from the Tariff of Fees (Government Notification No. 439 of 1918) was \$52,751.50 as against \$51,659.00 in 1929.

STAFF.

Mr. V. C. Branson, the First Assistant Analyst went on leave on the 23rd April and returned to the Colony on the 8th October.

No other changes have taken place during the year.

APPENDIX D.

MENTAL HOSPITAL.

NATIONALITY AND SEX OF PATIENTS TREATED IN 1930.

Nationality.	Remaining at end of 1929.		Admitted.		Total Number Treated.		Discharged.		Died.		Remaining at end of 1930.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Europeans	5	3	14	4	19	7	16	4	—	—	3	3
Indians	—	—	11	—	11	—	10	—	—	—	1	—
Chinese	15	7	171	86	186	93	166	85	8	—	12	8
Japanese	—	—	1	—	1	—	1	—	—	—	—	—
Jews	—	—	—	1	—	1	—	—	—	—	—	1
Eurasians	—	—	1	3	1	3	—	—	—	—	1	3
Malays	—	—	1	—	1	—	—	—	—	—	1	—
Negroes	—	1	—	—	—	1	—	—	—	—	—	1
<i>Total</i>	20	11	199	94	219	105	193	89	8	—	18	16

Appendix D.

MENTAL HOSPITAL ANNUAL REPORT, 1930.

Diseases.	Remaining in Hospital at end of 1929.	Admitted during 1930.	Total cases treated.	Discharged.				
				Apparently cured.	Relieved.	To Canton Mental Hospital.	Died.	Remaining in Hospital at end of 1930.
Errors of Development :—								
Imbecility Congenital.....	—	3	3	—	1	1	—	1
Imbecility Moral	—	2	2	—	1	1	—	—
Feeble mindedness	2	10	12	—	3	6	—	3
Disorders of function :—								
Mania Acute.....	5	24	29	14	2	12	1A	—
,, Intermittent	1	10	11	—	2	6	—	3
,, Chronic	1	11	12	—	3	8	1B	—
,, Associated with :—								
Epilepsy.....	—	1	1	—	—	1	—	—
Pregnancy	—	1	1	1	—	—	—	—
Melancholia Acute	—	9	9	4	1	3	—	1
Agitated	—	1	1	—	—	1	—	—
Chronic	2	1	3	—	—	1	—	2
Associated with Lactation	—	1	1	—	—	1	—	—
Intermittent	—	3	3	—	3	—	—	—
Maniacal Depressive Insanity :—	1	—	1	—	1	—	—	—
Alternating	—	1	1	—	—	1	—	—
Circular	—	—	—	—	—	—	—	—
Stupor Anergic	1	3	4	—	1	2	—	1
Onsessional	—	1	1	—	1	—	—	—
Delusional Insanity :—								
Acute	1	14	15	6	—	8	—	1
Chronic	5	7	12	—	4	5	—	3
Insanity of Infective Toxic, and other general Conditions,	—	—	—	—	—	—	—	—
Acute Delirium	—	1	1	1	—	—	—	—
Insanity Associated with Acute infective disease :—								
Febrile	—	2	2	2	—	—	—	—
Post Febrile....	—	2	2	2	—	—	—	—
Confusional	1	13	14	3	5	6	—	—
Syphilitic	—	1	1	—	—	1	—	—
General Paralysis of the Insane	1	3	4	—	1	1	1c	1
Tabo-paresis	—	1	1	—	1	—	—	—
Insanity due to Alcohol :—								
Acute	—	7	7	7	—	—	—	—
Chronic	—	1	1	—	1	—	—	—
Delirium Tremens	—	5	5	5	—	—	—	—
Dementia Praecox	4	29	33	—	22	9	—	2
" Primary	3	26	29	—	9	16	—	4
" Secondary	2	12	14	—	6	6	1D	1
" Senile	—	7	7	—	4	2	—	1
" from Epilepsy	—	3	3	—	2	—	—	1
Observation	1	77	78	51	14	—	4 E, F, G & H	9
Total :—1930.....	31	293	324	96	86	100	8	34
Total :— 1929.....	38	252	290	67	79	93	20	31

Return of Diseases and Deaths (In-Patients) for the Year 1930.

APPENDIX E.

APPENDIX F.

Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remaining in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1930.	Remaining in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1930.
		Admissions.	Deaths.				Admissions.	Deaths.		
I.—Epidemic, Endemic, and Infectious Diseases.										
Enteric Group:—										
Typhoid Fever	3	58	9	61	...	2	53	25	55	5
Clinical .....	...	...	...	...	...	...	84	18	84	...
Malaria:—										
(a) Benign Tertian	9	495	...	504	15	11	509	102	520	12
(b) Subtertian .....	...	...	...	...	...	22	696	194	718	37
(c) Quartan .....	...	2	...	2	...	...	...	...	...	...
(d) Aestivo-autumual	4	155	13	159	1	...	...	...	...	...
(e) Cachexia	1	55	1	56	3	...	27	2	27	...
Smallpox	1	3	...	4	...	10	69	26	79	1
Measles .....	...	15	...	15	1	...	3	...	3	...
Scarlet Fever .....	...	4	...	4	...	...	...	...	...	...
Whooping Cough .....	...	...	...	...	...	...	2	...	2	...
Diphtheria	1	35	9	36	4	1	36	20	37	1
Influenza .....	...	545	1	545	1	1	422	73	423	14
Mumps .....	...	3	...	3	...	...	1	...	1	...
Dysentery:—										
(a) Amoebic	2	75	1	77	2	16	340	126	356	28
(b) Bacillary .....	...	53	3	53	1	...	18	3	18	...
(c) Undefined or due to other causes .....	...	1	...	1	...	2	48	10	50	...
Leprosy	1	12	...	13	2	...	1	...	1	...
Erysipelas .....	...	5	...	5	...	...	2	...	2	...
Acute Poliomyelitis	1	...	...	1	...	...	...	...	...	...
Epidemic Cerebro-spinal Fever .....	...	2	1	2	...	...	4	3	4	...
Other Epidemic Diseases:—										
(a) Varicella (Chicken-pox).....	1	6	...	7	1	...	...	...	...	...
(b) Dengue.....	...	38	...	38	...	...	...	...	...	...
Rabies .....	...	6	4	6	...	...	...	...	...	...
Tetanus .....	...	2	...	2	...	...	68	47	68	...
<i>Carried forward.....</i>	24	1,570	42	1,594	31	65	2,383	649	2,448	98

Return of Diseases and Deaths (In-Patients) for the Year 1930.

APPENDIX E.

APPENDIX F.

Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remaining in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1930.	Remaining in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1930.
		Admissions.	Deaths.				Admissions.	Deaths.		
<i>Brought forward</i>	24	1,570	42	1,594	31	65	2,383	649	2,448	98
<i>I.—Epidemic, Endemic, and Infectious Diseases,—Continued.</i>										
Tuberculosis Pulmonary and Laryngeal	18	224	54	242	14	85	2,300	904	2,385	100
Tuberculosis of the Meninges or Central Nervous System .....	...	17	17	17	...	...	210	148	210	9
Tuberculosis of the Intestines or Peritoneum	1	12	2	13	...	...	46	32	46	...
Tuberculosis of the Vertebral Column .....	...	11	...	11	1	...	7	2	7	...
Tuberculosis of Bones and Joints.....	2	13	1	15	2	...	14	3	14	1
Tuberculosis of other organs:—										
(a) Skin or Subcutaneous Tissue (Lupus) .....	...	...	...	...	...	...	3	...	3	...
(b) Bones .....	...	...	...	...	...	...	1	...	1	...
(c) Lymphatic System	2	39	2	41	3	2	75	7	77	4
(d) Genito-urinary.....	...	2	...	2	1	...	...	...	...	...
(e) Other organs .....	...	1	...	1	1	...	1	...	1	...
Tuberculosis disseminated:—										
(a) Acute .....	...	2	2	2	...	...	...	...	...	...
(b) Chronic.....	2	8	4	10	1	12	59	18	71	...
Syphilis:—										
(a) Primary	2	64	...	66	1	...	2	...	2	...
(b) Secondary.....	1	35	...	36	3	1	17	2	18	1
(c) Tertiary	4	26	6	30	1	35	298	72	333	27
(d) Hereditary .....	...	5	...	5	...	...	17	14	17	...
Soft Chancery .....	...	27	...	27	...	...	2	...	2	...
Gonorrhœa and its complications	9	146	...	155	7	...	7	...	7	...
Gonorrhœal Ophthalmia .....	...	5	...	5	...	...	2	...	2	...
Gonorrhœal Arthritis	3	13	...	16	1	2	4	...	6	...
Granuloma Venereum .....	...	...	...	...	...	...	2	...	2	...
Septicæmia .....	...	2	1	2	...	...	68	48	68	2
<i>Carried forward.....</i>	68	2,222	131	2,290	67	202	5,518	1,899	5,720	242

Return of Diseases and Deaths (In-Patients) for the Year 1930.

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APPENDIX F.

Diseases.	GOVERNMENT HOSPITALS.				CHINESE HOSPITALS.					
	Remain-ing in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1930.	Remain-ing in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	
		Admis-sions.	Deaths.				Admis-sions.	Deaths.		
<i>Brought forward.....</i>	68	2,222	131	2,290	67	202	5,518	1,899	5,720	242
II.—General Diseases not mentioned above.										
Cancer or other malignant Tumours of the Buccal Cavity.....	4	34	4	38	6	...	...	...	...	...
Cancer or other malignant Tumours of the Stomach or Liver .....	...	8	6	8	...	...	31	10	31	...
Cancer or other malignant Tumours of the Peritoneum, Intestines, Rectum .....	...	8	...	8	2	...	28	11	28	...
Cancer or other malignant Tumours of the Female Genital Organs ...	...	17	...	17	1	...	7	5	7	1
Cancer or other malignant Tumours of the Breast .....	...	19	3	19	...	...	42	5	12	...
Cancer or other malignant Tumours of the Skin .....	...	12	4	12	3	...	1	...	1	...
Cancer or other malignant Tumours of Organs not specified .....	...	2	2	2	...	...	2	2	2	...
Tumours non-Malignant	5	91	5	96	3	2	20	...	22	...
Acute Rheumatism.....	...	6	...	6	...	...	13	...	13	...
Chronic Rheumatism .....	...	14	...	14	...	11	170	1	181	6
Beri-Beri	4	76	3	80	3	81	1,472	367	1,553	81
Diabetes (not including Insipidus) ...	...	5	...	5	...	...	1	...	1	1
Anæmia :—										
(a) Pernicious .....	...	4	1	4	1	...	4	1	4	1
(b) Other Anæmias & Chlorosis	2	39	3	41	...	...	69	1	69	...
Diseases of the Thyroid Gland :—										
(a) Exophthalmic Goitre	1	4	...	5	...	...	2	1	2	...
(b) Other diseases of the Thyroid Gland, Myxoedema.....	...	2	...	2	...	...	...	...	...	...
Diseases of the Para-Thyroid Glands	...	1	...	1	...	...	...	...	...	...
Diseases of the Supra-Renal Glands ..	...	...	...	...	...	...	1	...	1	...
Diseases of the Spleen .....	...	10	1	10	...	...	1	...	1	...
Leukæmia :—										
(a) Leukæmia .....	...	1	1	1	...	...	2	...	2	...
(b) Hodgkin's Diseases.....	...	2	1	2	1	...	...	...	...	...
Alcoholism .....	...	40	1	40	...	...	2	...	2	...
Chronic poisoning by organic substances (Morphia, Cocaine, &c.)...	3	87	...	90	2	16	130	54	146	12
Other General Diseases :—										
Purpura Haemorrhagica.....	...	1	...	1	...	...	1	...	1	...
Diabetes Insipidus .....	...	1	...	1	...	...	...	...	...	...
<i>Carried forward.....</i>	87	2,706	166	2,793	89	312	7,487	2,357	7,799	344

Return of Diseases and Deaths (In-Patients) for the Year 1930.

APPENDIX E.

APPENDIX F.

Diseases.	GOVERNMENT HOSPITALS.				CHINESE HOSPITALS.					
	Remain-ing in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1930.	Remain-ing in Hospital at end of 1929.	Yearly Total.			
		Admis-sions.	Deaths.				Admis-sions.	Deaths.		
<i>Brought forward.....</i>	87	2,706	166	2,793	89	312	7,487	2,357	7,799	344
<i>III.—Affections of the Nervous System and Organs of the Senses.</i>										
Encephalitis (not including Encephalitis Lethargica) .....	...	6	...	6	...	...	2	2	2	...
Meningitis (not including Tuberculous Meningitis or Cerebro-spinal Meningitis).....	...	4	3	4	...	...	4	2	4	...
Locomotor Ataxia .....	...	3	...	3	1	...	2	2	2	...
Other affections of the Spinal Cord	1	1	...	2	...	...	...	...	...	...
<i>Apoplexy :—</i>										
(a) Haemorrhage .....	..	11	6	11	...	14	149	85	163	6
(b) Embolism.....	...	...	...	...	...	...	34	6	34	...
(c) Thrombosis .....	...	...	...	...	...	...	39	4	39	...
<i>Paralysis :—</i>										
(a) Hemiplegia	1	4	...	5	1	2	140	22	142	15
(b) Other Paralyses	3	14	...	17	2	1	2	1	3	1
General Paralysis of the Insane	1	4	...	5	...	...	2	...	2	...
Other forms of Mental Alienation.....	1	10	...	11	...	...	3	...	3	...
Epilepsy	4	15	...	19	1	...	7	...	7	...
Eclampsia, Convulsions (non-puerperal) 5 years or over .....	...	1	...	1	...	...	2	...	2	...
Hysteria	1	5	...	6	1	...	2	...	2	...
Neuritis	1	64	...	65	4	2	77	2	79	4
Neurasthenia .....	...	14	...	14	...	...	3	...	3	...
Cerebral Softening.....	...	...	...	...	...	...	4	...	4	...
Other affections of the Nervous System such as Paralysis Agitans..	4	6	1	10	1	...	...	...	...	...
<i>Affections of the Organs of Vision :—</i>										
(a) Diseases of the Eye	4	24	...	28	...	15	637	...	652	22
(b) Conjunctivitis .....	...	36	...	36	1	1	27	...	28	2
(c) Trachoma.....	...	15	...	15	2	...	20	...	20	...
(d) Tumours of the Eye .....	...	2	...	2	...	...	1	1	1	...
(e) Other affections of the Eye...	...	27	...	27	1	...	55	...	55	3
Affections of the Ear or Mastoid Sinus..	...	29	...	29	14	1	14	1
<i>Carried forward.....</i>	108	3,001	176	3,109	104	347	8,713	2,485	9,060	398

APPENDIX E.

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Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remain-ing in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1930.	Remain-ing in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1930.
		Admis-sions.	Deaths.				Admis-sions.	Deaths.		
<i>Brought forward.....</i>	108	3,001	176	3,109	104	347	8,713	2,485	9,060	398
IV.—Affections of the Circulatory System.										
Pericarditis .....	...	2	1	2	...	...	25	4	25	...
Acute Endocarditis or Myocarditis ...	...	7	2	7	2	19	245	78	264	24
Other Diseases of the Heart :—										
(a) Valvular :—										
Mitral	1	38	3	39	3	24	248	149	272	39
Aortic .....	...	12	2	12	2	...	...	...	...	...
Tüenspid.....	...	...	...	...	...	...	4	...	4	...
(b) Myocarditis	1	20	8	21	...	13	112	12	125	19
Diseases of the Arteries :—										
(a) Aneurism .....	...	4	...	4	1	...	3	2	3	1
(b) Arterio-Sclerosis .....	...	6	...	6	...	...	...	...	...	...
Diseases of the Veins :—										
Hæmorrhoids	3	65	...	68	1	...	26	...	26	1
Varicose Veins .....	...	22	...	22	...	...	2	...	2	...
Phlebitis	1	2	...	3	...	...	...	...	...	...
Diseases of the Lymphatic System:—										
Lymphangitis.....	...	4	...	4	...	...	1	...	1	...
Lymphadenitis, Bubo (non-specific)	7	95	...	102	3	...	6	...	6	1
Hæmorrhage of undetermined cause...	...	2	...	2	...	...	2	2	2	...
Other affections of the Circulatory System .....	...	7	...	7	...	...	...	...	...	...
V.—Affections of the Respiratory System.										
Diseases of the Nasal Passages :—	...	...	...	...	...	...	1	...	1	...
Adenoids.....	...	5	...	5	...	...	1	...	1	...
Polypns .....	...	12	...	12	2	...	3	...	3	...
Rhinitis .....	...	3	...	3	...	...	...	...	...	...
Coryza.....	...	11	...	11	...	...	...	...	...	...
Affections of the Larynx :—										
Laryngitis	8	...	8	4	...	4	...
<i>Carried forward.....</i>	121	3,326	162	3,447	118	403	9,396	2,732	9,799	483

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Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remain-ing in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1930.	Remain-ing in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1930.
		Admis-sions.	Deaths.				Admis-sions.	Deaths.		
<i>Brought forward.....</i>	121	3,326	192	3,447	118	403	9,396	2,732	9,799	483
V.—Affections of the Respiratory System,—Continued.										
Bronchitis :—										
(a) Acute	4	187	...	191	3	27	255	34	282	19
(b) Chronic.....	3	95	2	98	2	39	613	125	652	44
Broncho-Pneumonia	3	76	40	79	2	40	1,362	682	1,402	26
Pneumonia :—										
(a) Lobar	1	51	23	52	...	...	608	166	608	18
(b) Unclassified .....	...	...	...	...	...	...	18	15	18	...
Pleurisy, Empyema	2	40	3	42	2	...	4	...	4	...
Asthma	8	94	...	102	4	12	88	14	100	2
Pulmonary Emphysema .....	...	...	...	...	...	...	1	...	1	...
Other affections of the Lungs :—										
Pulmonary Spirochaetosis .....	...	4	...	4	...	...	...	...	...	...
VI.—Diseases of the Digestive System.										
Diseases of Teeth or Gums—Caries, Pyorrhœa, &c.	2	85	1	87	2	...	1	...	1	...
Other affections of the Mouth:—										
Other affections of the Mouth ...	...	...	...	...	...	...	4	3	4	...
Stomatitis .....	...	9	...	9	1	...	...	...	...	...
Glossitis, &c. .....	...	10	...	10	2	...	1	...	1	...
Affections of the Pharynx or Tonsils:—										
Tonsillitis	2	173	...	175	2	...	17	...	17	1
Pharyngitis .....	...	19	..	19	...	...	1	...	1	...
Affections of the Oesophagus .....	...	2	...	2	...	...	...	...	...	...
Ulcer of the Stomach	1	19	3	20	2	...	20	1	20	1
Ulcer of the Duodenum.....	3	11	...	14	1	...	5	...	5	1
Other affections of the Stomach :—										
Gastritis	2	81	...	83	1	1	112	9	113	3
Dyspepsia, &c. .....	...	58	...	58	1	...	101	1	101	3
Diarrhoea and Enteritis :—										
Under two years .....	...	23	3	23	2	7	718	423	725	23
Diarrhoea and Enteritis :—										
Two years and over	1	201	2	202	...	37	645	281	682	20
Colitis .....	...	33	...	33	1	...	29	19	29	...
Ulceration .....	...	...	...	...	...	...	5	...	5	3
Sprue .....	...	2	...	2	...	...	...	...	...	...
Ankylostomiasis.....	3	28	1	31	2	...	7	4	7	...
<i>Carried forward.....</i>	156	4,627	270	4,783	148	566	14,011	4,509	14,577	647

Return of Diseases and Deaths (In-Patients) for the Year 1930.

APPENDIX E.

APPENDIX F.

Diseases.	GOVERNMENT HOSPITALS.				CHINESE HOSPITALS.					
	Remaining in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1930.	Remaining in Hospital at end of 1929.	Yearly Total.			
		Admissions.	Deaths.				Admis-	Deaths.		
<i>Brought forward.....</i>	156	4,627	270	4,783	148	566	14,011	4,509	14,577	647
VI.—Diseases of the Digestive System,—Continued.										
Diseases due to Intestinal Parasites:—										
(a) Cestoda (Tænia) .....	...	3	...	3	...	...	1	...	1	...
(b) Trematoda (Flukes) .....	...	3	...	3	...	...	...	...	...	...
(c) Nematoda (other than Ankylostoma).....	...	...	...	...	...	...	1	...	1	...
Ascaris	2	21	...	23	1	...	23	...	23	2
(d) Other parasites	1	4	1	5	1	...	...	...	...	...
(e) Unclassified	1	...	...	1	...	...	...	...	...	...
Appendicitis	2	87	6	89	6	...	63	26	63	1
Hernia.....	...	41	...	41	1	...	29	3	29	1
Affections of the Anus, Fistula, &c.	6	58	...	64	6	...	26	2	26	...
Other affections of the Intestines .....	...	...	...	...	...	...	2	...	2	...
Enteroptosis .....	...	2	...	2	...	...	...	...	...	...
Constipation .....	...	155	...	155	...	...	107	...	107	3
Cirrhosis of the Liver :—										
(a) Alcoholic .....	...	2	2	2	...	...	...	...	...	...
(b) Other forms .....	...	13	6	13	1	6	258	59	264	6
Biliary Calculus .....	...	7	1	7	...	...	...	...	...	...
Other affections of the Liver :—										
Abscess	1	1	...	2	...	...	24	6	24	...
Hepatitis.....	1	17	...	18	...	...	...	...	...	...
Cholecystitis .....	...	12	1	12	...	...	5	1	5	...
Jaundice	1	6	1	7	...	...	4	...	4	...
Diseases of the Pancreas .....	...	6	2	6	...	...	1	...	1	...
Peritonitis (of unknown cause).....	...	3	3	3	...	...	...	...	...	...
Other affections of the Digestive System	1	43	...	44	...	...	1	...	1	...
VII.—Diseases of the Genito-urinary System (non-Venereal).										
Acute Nephritis .....	...	16	2	16	1	13	311	45	324	9
Chronic Nephritis	8	23	12	31	3	36	991	376	1,027	41
Other affections of the Kidneys, Pyelitis, &c.	1	6	1	7	1	...	...	...	...	...
Urinary Calculus	1	42	...	43	...	...	7	...	7	1
<i>Carried forward.....</i>	182	5,198	308	5,380	169	621	15,865	5,027	16,486	711

Return of Diseases and Deaths (In-Patients) for the Year 1930.

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Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remaining in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1930.	Remaining in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1930.
		Admissions.	Deaths.				Admissions.	Deaths.		
<i>Brought forward.....</i>	182	5,198	308	5,380	169	621	15,865	5,027	16,486	711
VII.—Diseases of the Genito-urinary System (non-Venereal),—Continued.										
Diseases of the Bladder :—										
Cystitis .....	...	19	2	19	...	...	17	1	17	1
Diseases of the Urethra :—										
(a) Stricture .....	...	24	...	24	3	...	22	1	22	...
(b) Other .....	...	5	...	5	...	...	3	...	3	...
Diseases of the Prostate :—										
Hypertrophy .....	...	1	...	1	...	...	1	...	1	...
Prostatitis .....	...	4	...	4	...	...	...	...	...	...
Diseases (non-Venereal) of the Genital Organs of Man :—										
Epididymitis .....	...	8	...	8	...	...	1	...	1	...
Orchitis .....	...	7	...	7	...	1	14	...	15	1
Hydrocele .....	...	17	...	17	1	...	9	...	9	1
Ulcer of Penis .....	...	11	...	11	...	...	1	...	1	...
Phimosis .....	...	16	...	16	1	...	...	...	...	...
Cysts or other non-malignant Tumours of the Ovaries.....	...	22	...	22	...	...	3	...	3	...
Salpingitis :—										
Abscess of the Pelvis.....	1	29	1	30	3	2	8	...	10	1
Uterine Tumours (non-malignant) .....	...	14	...	14	...	...	7	...	7	...
Uterine Haemorrhage (non-puerperal) .....	...	8	...	8	...	...	...	...	...	...
Metritis	1	19	...	20	...	...	...	...	...	...
Other affections of the Female Genital Organs.....	2	24	...	26	...	...	...	...	...	...
Displacements of Uterus	2	39	...	41	...	...	15	...	15	...
Amenorrhoea .....	...	3	...	3	...	...	40	...	40	...
Dysmenorrhoea .....	...	7	...	7	...	...	28	...	28	...
Leucorrhoea.....	...	1	...	1	...	...	42	...	42	...
Diseases of the Breast (non-puerperal) :—										
Mastitis .....	...	1	...	1	...	1	19	...	20	3
Abscess of Breast	2	...	2	13	...	13	...
<i>Carried forward.....</i>	188	5,479	311	5,667	177	625	16,108	5,029	16,733	718

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Diseases.	GOVERNMENT HOSPITALS.				CHINESE HOSPITALS.					
	Remain-ing in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1930.	Remain-ing in Hospital at end of 1929.	Yearly Total.			
		Admis-sions.	Deaths.				Admis-sions.	Deaths.		
<i>Brought forward.....</i>	188	5,479	311	5,667	177	625	16,108	5,029	16,733	718
VIII.—Puerperal State.										
Normal Labour	7	736	1	743	24	63	5,497	...	5,560	85
Accidents of Pregnancy .....	...	6	...	6	...	...	15	...	15	...
(a) Abortion .....	...	34	...	34	1	...	14	...	14	...
(b) Ectopic Gestation .....	...	14	2	14	...	...	...	...	...	...
(c) Other accidents of Pregnancy	...	26	...	26	1	...	...	...	...	...
Puerperal Hæmorrhage .....	...	1	...	1	...	...	19	6	19	1
Other accidents of Parturition .....	...	5	4	5	...	...	...	...	...	...
Puerperal Septicæmia .....	...	2	1	2	...	...	6	2	6	...
Puerperal Eclampsia .....	...	1	...	1	...	...	...	...	...	...
Sequelæ of Labour.....	...	1	...	1	1	...	...	...	...	...
IX.—Affections of the Skin and Cellular Tissues.										
Gangrene	3	9	1	12	...	...	2	...	2	...
Boil :—										
Carbuncle	2	206	...	208	7	7	100	10	107	10
Abscess :—										
Whitlow	8	286	...	294	7	...	95	...	95	3
Cellulitis	9	105	2	114	2	49	1,217	15	1,266	53
Tinea .....	...	22	...	22	1	...	...	...	...	...
Scabies .....	...	9	...	9	...	...	86	...	86	7
Other Diseases of the Skin :—										
Brythema .....	...	5	...	5	...	...	...	...	...	...
Erythema .....	...	...	...	...	...	...	6	...	6	...
Urticaria .....	...	9	...	9	...	...	...	...	...	...
Eczema .....	...	65	...	65	1	...	20	...	20	1
Herpes.....	..	4	...	4	1	...	1	...	1	...
Elephantiasis .....	...	...	...	...	...	...	2	...	2	...
Keloid .....	...	1	...	1	...	...	...	...	...	...
Pemphigus	4	...	4	2
Ulcer	2	...	2
<i>Carried forward.....</i>	217	7,032	322	7,249	225	744	23,188	5,062	23,932	878

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Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remaining in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1930.	Remaining in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1930.
		Admissions.	Deaths.				Admissions.	Deaths.		
<i>Brought forward.....</i>	217	7,032	322	7,249	225	744	23,188	5,062	23,932	878
X.—Diseases of Bones and Organs of Locomotion (other than Tuberculous).										
Diseases of Bones :—										
Osteitis	2	27	...	29	3	...	1	1	1	...
Diseases of Joints :—										
Arthritis	3	31	...	34	1	...	40	2	40	2
Synovitis .....	...	19	...	19	2	...	...	...	...	...
Other Diseases of Bones or Organs of Locomotion.....	...	56	...	56	2	...	...	...	...	...
XI.—Malformations.										
Malformations :—										
Hydrocephalus .....	...	1	1	1	...	...	1	...	1	...
Spina Bifida, &c. .....	...	26	1	26	...	...	...	...	...	...
XII.—Diseases of Infancy.										
Congenital Debility .....	...	18	4	18	...	...	108	39	108	6
Premature Birth.....	...	3	1	3	...	...	79	28	79	...
Other affections of Infancy	1	12	1	13	1	...	...	...	...	...
Infant neglect (infants of three months or over) .....	...	...	...	...	...	...	18	10	18	...
XIII.—Affections of Old Age.										
Senility :—										
Senile Dementia.....	...	8	3	8	...	27	317	112	344	26
XIV.—Affections produced by External Causes.										
Suicide by Poisoning.....	...	68	8	68	1	...	23	...	23	...
Corrosive Poisoning (intentional).....	...	10	3	10	...	...	...	...	...	...
Suicide by Gas Poisoning.....	...	1	...	1	...	...	...	...	...	...
Suicide by Hanging or Strangulation.	...	3	...	3	...	...	...	...	...	...
Suicide by Drowning.....	...	40	1	40	...	...	...	...	...	...
Suicide by cutting or stabbing Instruments	1	1	1
<i>Carried forward.....</i>	223	7,356	346	7,579	235	771	23,755	5,254	24,546	912

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APPENDIX F.

Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remaining in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1930.	Remaining in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remaining in Hospital at end of 1930.
		Admissions.	Deaths.				Admissions.	Deaths.		
<i>Brought forward.....</i>	223	7,356	346	7,579	235	771	2,3775	5,254	24,546	912
XIV.—Affections produced by External Causes,—Continued.										
Other Suicides .....	...	6	...	6	1	...	...	...	...	...
Food Poisoning :—	...	...	...	...	...	...	2	...	2	...
Botulism .....	...	23	...	23	...	...	...	...	...	...
Attacks of poisonous animals :—										
Snake Bite .....	...	6	...	6	...	...	...	...	...	...
Insect Bite .....	...	2	...	2	...	...	...	...	...	...
Other accidental Poisonings .....	...	18	...	18	...	...	2	...	2	...
Burns (by Fire)	3	39	4	42	3	1	39	...	40	1
Burns (other than by Fire) .....	...	32	1	32	1	...	44	...	44	...
Suffocation (accidental).....	...	...	...	...	...	...	1	...	1	...
Poisoning by Gas (accidental) .....	...	4	...	4	...	...	...	...	...	...
Drowning (accidental) .....	...	4	...	4	...	...	13	...	13	...
Wounds (by Firearms, war excepted)...	4	27	3	31	1	...	2	...	2	...
Wounds (by cutting or stabbing Instruments)	2	177	7	179	8	12	91	...	103	13
Wounds (by Fall)	2	146	3	148	...	...	36	9	36	3
Wounds (in Mines or Quarries)	1	2	...	3	...	...	...	...	...	...
Wounds (by Machinery)	1	32	...	33	...	1	...	...	1	...
Wounds (crushing, e.g. railway accidents, &c.)	3	104	...	107	...	...	...	...	...	...
Injuries inflicted by Animals, Bites, Kicks, &c. .....	...	9	...	9	...	...	10	...	10	...
Wounds inflicted on Active Service...	...	...	...	...	...	13	31	...	44	...
Hunger or Thirst .....	...	...	...	...	...	...	2	2	2	...
Exposure to Heat :—										
Heatstroke .....	...	3	1	3	...	...	1	...	1	...
Lightning Stroke .....	...	2	...	2	...	...	...	...	...	...
Dislocation .....	...	15	...	15	1	...	5	...	5	...
Sprain	1	60	...	61	...	32	437	...	469	15
Fracture	18	247	67	265	6	11	343	5	354	20
Other external Injuries	2	422	20	424	44	...	51	...	51	...
<i>Carried forward.....</i>	260	8,736	452	8,996	300	841	24,885	5,270	25,726	964

Return of Diseases and Deaths (In-Patients) for the Year 1930.

APPENDIX E.

APPENDIX F.

Diseases.	GOVERNMENT HOSPITALS.					CHINESE HOSPITALS.				
	Remain-ing in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1930.	Remain-ing in Hospital at end of 1929.	Yearly Total.		Total Cases Treated.	Remain-ing in Hospital at end of 1930.
		Admis-sions.	Deaths.				Admis-sions.	Deaths.		
<i>Brought forward.....</i>	260	8,736	452	8,996	300	841	24,885	5,270	25,726	964
XV.—<i>Ill-Defined Diseases.</i>										
Diseases not already specified or ill-defined :—										
Pyrexia of Unknown Origin...	...	10	...	10	...	...	...	...	...	...
Ascites	1	34	...	35	7	...	18	...	18	1
Œdema .....	...	1	...	1	...	...	...	...	...	...
Asthenia	1	44	...	45	...	...	...	...	...	...
Hyperpyrexia	2	16	...	18	...	...	...	...	...	...
Malingering .....	...	9	...	9	...	...	...	...	...	...
XVI.—<i>Diseases, the total of which have not caused 10 Deaths.</i>										
Observation	1	280	...	281	2	...	...	...	...	...
In Attendance.....	...	17	...	17	2	...	...	...	...	...
TOTAL.....	265	9,147	452	9,412	311	841	24,903	5,270	25,744	965

APPENDIX G.

Mortuaries—Return of Diseases for the year 1930.

Diseases.	Male.	Female.
<i>I.—Epidemic, Endemic, and Infectious Diseases.</i>		
Enteric Group:—		
(a) Type not defined	4	9
Malaria:—		
(a) Quartain	64	29
Smallpox	104	96
Measles	1	1
Diphtheria.....	1	...
Dysentery:—		
(a) Amœbic	3	2
(b) Bacillary	2	...
Epidemic Cerebro-spinal Fever	4	5
Tuberculosis Pulmonary and Laryngeal	296	309
Tuberculosis of the Meninges or Central Nervous System.....	7	6
Tuberculosis of the Intestines or Peritoneum	27	14
Tuberculosis of Bones and Joints ...	3	1
Tuberculosis disseminated: —		
Acute	106	136
Syphilis:—		
(a) Tertiary	2	...
(b) Hereditary	53	74
Septicæmia	4	3
<i>Carried forward.....</i>	681	685

Mortuaries—Return of Diseases for the year 1930.

Diseases.	Male.	Female.
<i>Brought forward.....</i>	681	685
<i>II.—General Diseases not mentioned above.</i>		
Cancer or other malignant Tumours of the Stomach or Liver	3	...
Cancer or other malignant Tumours of the Peritoneum Intestines, Rectum	1	...
Beri-beri	43	9
Rickets	1	...
Diseases of the Thymus	8	2
Diseases of the Spleen.....	3	1
Chronic poisoning by organic substances (Morphia, Cocaine, &c.)	1	...
<i>III.—Affections of the Nervous System and Organs of the Senses.</i>		
Meningitis not including Tuber-culous Meningitis or Cerebro-spinal Meningitis	4	12
Apoplexy:— Hæmorrhage.....	1	3
<i>IV.—Affections of the Circulatory System.</i>		
Pericarditis	11	3
Acute Endocarditis or Myocarditis ...	6	1
<i>Carried forward.....</i>	763	716

Mortuaries—Return of Diseases for the year 1930.

Diseases.	Male.	Female.
<i>Brought forward.....</i>	763	716
<i>IV. Affections of the Circulatory System,—Continued.</i>		
Other Diseases of the Heart:—		
(a) Valvular:—		
Mitral	3	...
Aortic	6	1
(b) Myocarditis	1	...
Diseases of the Arteries:—		
(a) Aneurism	19	...
(b) Arterio-Sclerosis	4	2
(c) Other diseases	1	...
Embolism or Thrombosis (non-cerebral)	2	...
Diseases of the Veins :—		
Varicose Veins.....	1	...
<i>V.— Affections of Respiratory System.</i>		
Bronchitis:—		
(a) Acute.....	265	323
(b) Chronic	1	...
Broncho-Pneumonia	559	528
Pneumonia:—		
(a) Lobar	69	40
(b) Unclassified	3	1
Pleurisy, Empyema	28	20
Gangrene of the Lungs	2	...
Pulmonary Emphysema	2	...
Other affections of the Lungs—		
Pulmonary Spirochaetosis	1	...
<i>Carried forward.....</i>	1,730	1,631

Mortuaries—Return of Diseases for the year 1930.

Diseases.	Male.	Female.
<i>Brought forward.....</i>	1,730	1,631
<i>VI.—Diseases of the Digestive System.</i>		
A - Ulcer of the Stomach	3	...
B—Ulcer of the Duodenum	4	...
Other affections of the Stomach		
Gastritis	2	...
Diarrhoea and Enteritis:—		
Under two years	454	471
Diarrhoea and Enteritis:—		
Two years and over.....	26	25
Ulceration.....	3	2
Diseases due to Intestinal Parasites:—		
(a) Trematoda (Flukes)	2	...
(b) Other parasites	1	...
Appendicitis	5	1
Hernia	1	...
Acute Yellow Atrophy of the Liver..	1	...
Cirrhosis of the Liver:—		
(a) Other forms	3	2
Biliary Calculus	1	1
Other affections of the Liver:—		
Abscess	1	1
Jaundice	13	7
Peritonitis (of unknown cause)	9	2
Other affections of the Digestive System	7	3
<i>VII.—Diseases of the Genito-urinary System (non-Venereal).</i>		
Acute Nephritis	3	3
Chronic	17	3
<i>Carried forward.....</i>	2,286	2,152

Mortuaries—Return of Diseases for the year 1930.

Diseases.	Male.	Female.
<i>Brought forward</i>	2,286	2,152
<i>VIII.—Puerperal State.</i>		
Accident of Pregnancy:—		
Abortion .....	...	1
Puerperal Septicæmia .....	...	1
<i>IX.—Affections of the Skin and Cellular Tissues.</i>		
Gangrene	1	...
<i>X.—Diseases of Bones and Organs of Locomotion (other than Tuberculosis.)</i>		
Other Diseases of Bones or Organs of Locomotion	1	...
<i>XI.—Malformations.</i>		
Spina Bifida, &c.	12	11
<i>XII.—Diseases of Infancy.</i>		
Congenital Debility	157	204
Premature Birth	39	44
Other affections of Infancy.....	15	4
<i>XIII.—Affections of Old Age.</i>		
Senility :—		
Senile Dementia	1	...
<i>Carried forward</i>	2,512	2,417

Mortuaries—Return of Diseases for the year 1930.

Diseases.	Male.	Female.
<i>Brought forward.....</i>	2,512	2,417
<i>XIV.—Affections produced by External Causes.</i>		
Suicide by Poisoning	3	6
Suicide by Hanging or Strangulation	16	9
Suicide by Firearms.....	1	..
Suicide by cutting or stabbing		
Instruments	1	..
Burns (by Fire)	3	2
Burns (other than by Fire).....	...	2
Suffocation (accidental)	5	2
Drowning (accidental).....	32	28
Wounds (by Firearms, war excepted)	2	1
Wounds (by crushing or stabbing		
Instruments	1	1
Wounds (by Fall).....	27	14
Wounds (crushing, e.g. railway accidents, &c,)	12	6
Lightning Stroke	2	..
Electric Shock	1	..
Murder by Firearms.....	3	2
Murder by cutting or stabbing		
Instruments	8	..
A—Dislocation.....	1	..
B—Fracture	14	7
<i>XV.—Ill-Defined Diseases.</i>		
Diseases not already specified or ill-defined :—		
Shock	1	..
Malingering :—		
Still born	101	85
<i>XVI.—Diseases, the total of which have not caused 10 Deaths.</i>		
Decomposed	125	63
Skeleton	2	..
<i>Total.....</i>	2,873	2,645



